

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: April 5, 2004, 14:59:12 ; Search time 11.6667 Seconds
(without alignments)
74.205 Million cell updates/sec

Title: US-09-766-889C-8

Perfect score: 52

Sequence: 1 EADPTGHSY 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR_78.*

1: Pirl.*

2: Pirl2.*

3: Pirl3.*

4: Pirl4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	52	100.0	280	2 JC2358	melanoma antigen M
2	44	84.6	369	2 I38659	melanoma antigen M
3	43	82.7	234	2 I38667	melanoma antigen M
4	43	82.7	315	2 I38668	melanoma antigen M
5	42	80.8	319	2 I38660	melanoma antigen M
6	38	73.1	129	2 E72685	hypothetical prote
7	38	73.1	305	2 H83287	conserved hypothet
8	37	71.2	555	1 RGASWA	regulatory protein
9	36	69.2	133	2 I38663	melanoma antigen M
10	36	69.2	314	2 JC2361	melanoma antigen M
11	36	69.2	314	2 JC2360	melanoma antigen M
12	36	69.2	1375	2 T37672	probable DNA repla
13	36	69.2	3396	1 A42551	genome polyprotein
14	35	67.3	98	2 F70769	hypothetical prote
15	35	67.3	385	2 B87441	rod shape-determ
16	35	67.3	428	2 A29388	hypothetical prote
17	35	67.3	430	2 C98344	sugar-binding prot
18	35	67.3	925	1 A39216	nucleotide diphosp
19	35	67.3	1033	2 S02168	type I site-specif
20	35	67.3	1187	2 T13151	endo-1,4-beta-xyla
21	34	65.4	197	2 A70832	hypothetical prote
22	34	65.4	215	2 T35768	hypothetical prote
23	34	65.4	224	2 T34937	hypothetical prote
24	34	65.4	322	2 A41348	oligopeptide ABC t
25	34	65.4	370	2 S49008	fork head protein
26	34	65.4	497	1 T33938	penton protein (II
27	34	65.4	668	2 T18635	hypothetical prote
28	34	65.4	749	2 H82691	topoisomerase IV s
29	34	65.4	878	2 S44543	hypothetical prote

30 65.4 1184 2 T09484 cartilage interned
31 65.4 1670 2 S1551 DNA-directed DNA p
32 65.4 3942 2 T42730 Bassoon protein -
33 63.5 214 2 AH0308 conserved hypothet
34 63.5 246 2 T51967 proteasome endopept
35 63.5 288 2 A56279 carbon-monoxide de
36 63.5 295 2 C69180 adhesion protein -
37 63.5 299 2 H82907 pseudouridine synt
38 63.5 301 2 C71194 hypothetical prote
39 63.5 341 2 T07148 G-box binding fact
40 63.5 372 2 S32581 lignin peroxidase
41 63.5 388 2 C90059 3-hydroxy-3-methyl
42 63.5 457 2 T39751 major facilitator
43 63.5 488 1 S55874 sulfite oxidase (E
44 63.5 488 1 A53107 sulfite oxidase (E
45 63.5 597 1 S37849 DNA intrastrand cr

ALIGNMENTS

RESULT 1

JC2358
melanoma antigen MAGE-1 - human
C;Species: Homo sapiens (man)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 18-Feb-2000
C;Accession: JC2358
R;Ding, M.; Beck, R.J.; Keller, C.J.; Fenton, R.G.
Biochem. Biophys. Res. Commun. 202, 549-555, 1994
A;Title: Cloning and analysis of MAGE-1-related genes.
A;Reference number: JC2358; MUID:94311935; PMID:8037761
A;Accession: JC2358
A;Molecule type: mRNA
A;Residues: 1-280 <DIN>
A;Experimental source: melanoma cell line DM150
C;Genetics:
A;Gene: MAGE
C;Superfamily: tumor associated protein MAGE
F;161-169/Region: HLA-A1 binding #status predicted

Query Match 100.0%; Score 52; DB 2; Length 280;
Best Local Similarity 100.0%; Pred No. 0.024; 0; Indels 0; Gaps 0;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||
Db 161 EADPTGHSY 169

RESULT 2

I38659
melanoma antigen MAGE-10 - human
C;Species: Homo sapiens (man)
C;Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 18-Feb-2000
C;Accession: I38659
R;De Paen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; B
con, T.
Immunogenetics 40, 360-369, 1994
A;Title: Structure, chromosomal localization, and expression of the MAGE fa
A;Reference number: I38659; MUID:95012457; PMID:7927540
A;Accession: I38659
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-369 <RES>
A;Cross-references: EMBL:U10685; NID:g533510; PIDN:AAA68869.1; PID:g533511
C;Genetics:
A;Gene: GDB:MAGEA10; MAGE10
A;Cross-references: GDB:331126
A;Map position: Xq28-Xq28
A;Introns: #status absent
C;Superfamily: tumor associated protein MAGE
Query Match 84.6%; Score 44; DB 2; Length 369;

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Best Local Similarity 77.8%; Pred. No. 1.1;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 193 EVDPTGHSF 201

RESULT 3
I38667
melanoma antigen MAGE-8 - human
C:Species: Homo sapiens (man)
C:Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 18-Feb-2000
C:Accession: I38667
R:De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Br
con, T.
Immunogenetics 40, 360-369, 1994
A:Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A:Reference number: I38659; MUID:95012457; PMID:7927540
A:Accession: I38667
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-234 <RES>
A:Cross-references: EMBL:U10693; NID:G533525; PIDN:AAA68876.1; PID:G533526
C:Genetics:
A:Gene: GDB:MAGEA8; MAGE8
A:Cross-references: GDB:331123
A:Map position: Xq28-Xq28
A:Introns: #status absent
C:Superfamily: tumor associated protein MAGE

Query Match 82.7%; Score 43; DB 2; Length 234;
Best Local Similarity 77.8%; Pred. No. 1.1;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 171 EVDPAHSHY 179

RESULT 4
I38668
melanoma antigen MAGE-9 - human
C:Species: Homo sapiens (man)
C:Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 18-Feb-2000
C:Accession: I38668
R:De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Br
con, T.
Immunogenetics 40, 360-369, 1994
A:Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A:Reference number: I38659; MUID:95012457; PMID:7927540
A:Accession: I38668
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-315 <RES>
A:Cross-references: EMBL:U10694; NID:G533527; PIDN:AAA68877.1; PID:G533528
C:Genetics:
A:Gene: GDB:MAGEA9; MAGE9
A:Cross-references: GDB:331125
A:Map position: Xp21.3-Xp21.3
A:Introns: #status absent
C:Superfamily: tumor associated protein MAGE

Query Match 82.7%; Score 43; DB 2; Length 315;
Best Local Similarity 77.8%; Pred. No. 1.5;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 167 EVDPAHSHY 175

RESULT 5

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I38660
melanoma antigen MAGE-11 - human
C:Species: Homo sapiens (man)
C:Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 18-Feb-2000
C:Accession: I38660
R:De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Br
con, T.
Immunogenetics 40, 360-369, 1994
A:Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A:Reference number: I38659; MUID:95012457; PMID:7927540
A:Accession: I38660
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-319 <RES>
A:Cross-references: EMBL:U10686; NID:G533512; PIDN:AAA68870.1; PID:G533513
C:Genetics:
A:Gene: GDB:MAGEA11; MAGE11
A:Cross-references: GDB:331128
A:Map position: Xq28-Xq28
A:Introns: #status absent
C:Superfamily: tumor associated protein MAGE

Query Match 80.8%; Score 42; DB 2; Length 319;
Best Local Similarity 77.8%; Pred. No. 2.3;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 171 EVDPTGHSY 179

RESULT 6
E72685
hypothetical protein APE0901 - Aeropyrum pernix (strain K1)
C:Species: Aeropyrum pernix
C:Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Jun-2000
C:Accession: E72685
R:Kawarabayashi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Takah
awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; K
DNA Res. 6, 83-101, 1999
A:Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyr
A:Reference number: A72450; MUID:99310339; PMID:10382966
A:Accession: E72685
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-129 <RAW>
A:Cross-references: DDBJ:AP000060; NID:G5104188; PIDN:BAA79885.1; PID:G5104570
A:Experimental source: strain K1
C:Genetics:
A:Gene: APE0901
C:Superfamily: Aeropyrum pernix hypothetical protein APE0901

Query Match 73.1%; Score 38; DB 2; Length 129;
Best Local Similarity 85.7%; Pred. No. 5.1;
Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 3 DPTGHSY 9
Db 115 DPAGHSY 121

RESULT 7
H83287
conserved hypothetical protein PA2875 [imported] - Pseudomonas aeruginosa (strain PA01)
C:Species: Pseudomonas aeruginosa
C:Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
C:Accession: H83287
R:Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrenner, P.; Hickey, M.J.; Br
adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim,
.; Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
A:Title: Complete genome sequence of pseudomonas aeruginosa PA01, an opportunistic patho
A:Reference number: A82950; MUID:20437337; PMID:10984043

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A;Accession: H83287
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-305 <STO>
A;Cross-references: GB:AE004713; GB:AE004091; NID:G9948952; PIDN:AAAG06263.1; GSPDB:GN001
A;Experimental source: strain PAOL
C;Genetics:
C;Superfamily: methanol dehydrogenase regulatory protein

Query Match 73.1%; Score 38; DB 2; Length 305;
Best Local Similarity 85.7%; Pred. No. 13; Mismatches 0; Indels 0; Gaps 0;
Matches 6; Conservative 1;

QY 1 EADPTGH 7
:|||||
Db 283 QADPTGH 289

RESULT 8
RGASWA
regulatory protein weta - Emericella nidulans
C;Species: Emericella nidulans, Aspergillus nidulans
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 16-Jul-1999
C;Accession: A39665
R;Marshall, M.A.; Timberlake, W.E.
Mol. Cell. Biol. 11, 55-62, 1991
A;Title: Aspergillus nidulans weta activates spore-specific gene expression.
A;Reference number: A39665; MUID:91094871; PMID:1986246
A;Accession: A39665
A;Molecule type: DNA
A;Residues: 1-555 <MAR>
A;Cross-references: GB:M60528; GB:M35758; NID:G168108; PIDN:AAA33330.1; PID:G168109
A;Comment: The products of the genes brlA, abaA, and weta are required for activation of
C;Genetics:
A;Gene: weta
C;Superfamily: regulatory protein weta
C;Keywords: transcription regulation

Query Match 71.2%; Score 37; DB 1; Length 555;
Best Local Similarity 87.5%; Pred. No. 37; Indels 1; Gaps 0;
Matches 7; Conservative 0; Mismatches 1;

QY 1 EADPTGHS 8
:|||||
Db 109 EADATGHS 116

RESULT 9
I38663
melanoma antigen Mage-5 - human (fragments)
C;Species: Homo sapiens (man)
C;Date: 07-Jun-1996 #sequence_revision 18-Feb-2000 #text_change 18-Feb-2000
C;Accession: I38663; I38664; PH1299; PH1300
R;De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; B
oon, T.
Immunogenetics 40, 360-369, 1994
A;Title: Structure, chromosomal localization, and expression of 12 genes of the Mage fam
A;Reference number: I38659; MUID:95012457; PMID:7927540
A;Accession: I38663
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-124 <DEP1>
A;Cross-references: EMBL:U10689; NID:G533518; PIDN:AAA68873.1; PID:G533519
A;Experimental source: Mage-5a antigen
A;Accession: I38664
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-124 <DEP2>
A;Cross-references: EMBL:U10690; NID:G533520; PIDN:AAA68874.1; PID:G533521
A;Experimental source: Mage-5b antigen
A;Note: these sequences seem to be incomplete with respect to other members of the super
R;Traversari, C.; van der Bruggen, P.; Luescher, I.F.; Lurquin, C.; Chomez, P.; Van Pel.

J. Exp. Med. 176, 1453-1457, 1992
A;Title: A nonapeptide encoded by human gene Mage-1 is recognized on HLA-A1 by cytolytic
A;Reference number: PH1294; MUID:93018875; PMID:1402688
A;Accession: PH1299
A;Molecule type: DNA
A;Residues: 125-133 <TRAI>
A;Experimental source: Mage 5 protein
A;Accession: PH1300
A;Molecule type: DNA
A;Residues: 125-133 <TRA2>
A;Experimental source: Mage 51 protein
C;Genetics:
A;Gene: GDB:MAGEA5; MAGE5
A;Cross-references: GDB:331120
A;Map position: Xq28-Xq28
A;Introns: #status absent
C;Superfamily: tumor associated protein Mage

Query Match 69.2%; Score 36; DB 2; Length 133;
Best Local Similarity 66.7%; Pred. No. 13; Indels 1; Gaps 0;
Matches 6; Conservative 2; Mismatches 1;

QY 1 EADPTGHSY 9
:|||||
Db 125 EADPTSNTY 133

RESULT 10
JC2361
melanoma antigen Mage-3 - human
N;Alternate names: Mage 3 protein
C;Species: Homo sapiens (man)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 18-Feb-2000
C;Accession: JC2361; PH1296; I38438
R;Ding, M.; Beck, R.J.; Keller, C.J.; Penton, R.G.
Biochem. Biophys. Res. Commun. 202, 549-555, 1994
A;Title: Cloning and analysis of Mage-1-related genes.
A;Reference number: JC2358; MUID:94311935; PMID:8037761
A;Accession: JC2361
A;Molecule type: mRNA
A;Residues: 1-314 <DIN>
A;Experimental source: melanoma cell line DML50
R;Traversari, C.; van der Bruggen, P.; Luescher, I.F.; Lurquin, C.; Chomez, P.; Van Pel,
J. Exp. Med. 176, 1453-1457, 1992
A;Title: A nonapeptide encoded by human gene Mage-1 is recognized on HLA-A1 by cytolytic
A;Reference number: PH1294; MUID:93018875; PMID:1402688
A;Accession: PH1296
A;Molecule type: DNA
A;Residues: 168-176 <TPA>
R;Gaugler, B.; Van den Eynde, B.; van der Bruggen, P.; Romero, P.; Gaforio, J.J.; De Pl
J. Exp. Med. 179, 921-930, 1994
A;Title: Human gene Mage-3 codes for an antigen recognized on a melanoma by autologous
A;Reference number: I38438; MUID:94157413; PMID:8113684
A;Accession: I38438
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-314 <RES>
A;Cross-references: EMBL:U03735; NID:G468825; PIDN:AAA17446.1; PID:G468826
C;Genetics:
A;Gene: Mage-3
C;Superfamily: tumor associated protein Mage
P;168-176/Region: HLA-A1 binding #status predicted

Query Match 69.2%; Score 36; DB 2; Length 314;
Best Local Similarity 66.7%; Pred. No. 31; Indels 3; Gaps 0;
Matches 6; Conservative 0; Mismatches 3;

QY 1 EADPTGHSY 9
:|||||
Db 168 EVDPIGHLY 176

RESULT 11

JC2360
melanoma antigen Mage-6 - human
N:Alternate names: tumor-associated antigen, MAGE-3b
C:Species: Homo sapiens (man)
C>Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 18-Feb-2000
C:Accession: JC2360; PH1301; J38665; G01445
R:Ding, M.; Beck, R.J.; Keller, C.J.; Fenton, R.G.
Biochem. Biophys. Res. Commun. 202, 549-555, 1994
A:Title: Cloning and analysis of MAGE-1-related genes.
A:Reference number: JC2358; MUID:94311935; PMID:8037761
A:Accession: JC2360
A:Molecule type: mRNA
A:Residues: 1-314 <DIN>
A:Experimental source: melanoma cell line DM150
R:Traversari, C.; van der Bruggen, P.; Luescher, I.F.; Lurquin, C.; Chomez, P.; Van Pel, J. Exp. Med. 176, 1453-1457, 1992
A:Title: A nonpeptide encoded by human gene MAGE-1 is recognized on HLA-A1 by cytolytic
A:Reference number: PH1294; MUID:93018875; PMID:1402688
A:Accession: PH1301
A:Molecule type: DNA
A:Residues: 168-176 <TRA>
R:De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Briccon, T.
Immunogenetics 40, 360-369, 1994
A:Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A:Reference number: 138659; MUID:95012457; PMID:7927540
A:Accession: 138665
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-314 <RSS>
A:Cross-references: EMBL:U10691; NID:G533522; PIDN:AAA68875.1; PID:G533523
R:Fenton, R.G.
A:Reference number: G07126
A:Accession: G01445
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-314 <FEN>
A:Cross-references: EMBL:U10339; NID:G499121; PIDN:AAA19006.1; PID:G499122
C:Genetics:
A:Gene: GDB:MAGEA6; MAGE6
A:Cross-references: GDB:331121
A:Map position: Xq28-qx28
A:Introns: #status absent
C:Superfamily: tumor associated protein MAGE
F:168-176/Region: HLA-A1 binding #status predicted
Query Match 69.28; Score 36; DB 2; Length 314;
Best Local Similarity 66.74; Pred. No. 31;
Matches 6; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db 168 EVDPIGHVY 176
RESULT 12
T37672
probable DNA repair protein - fission yeast (Schizosaccharomyces pombe)
C:Species: Schizosaccharomyces pombe
C>Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 02-Sep-2000
C:Accession: T37672
R:McDougall, R.C.; Rajandream, M.A.; Barrell, B.G.; Davis, P.; Churcher, C.M.
submitted to the EMBL Data Library, October 1999
A:Reference number: Z21736
A:Accession: T37672
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-1375 <MCD>
A:Cross-references: EMBL:AL132675; PIDN:CAB59685.1; GSPDB:GN00066; SPDB:SPAC144.05
A:Experimental source: strain 972h; cosmid c144
C:Genetics:
A:Gene: SPDB:SPAC144.05
A:Map position: 1
A:Introns: 1108/1; 1196/3; 1263/2; 1277/1
C:Superfamily: RING finger homology
F:1088-1135/Domain: RING finger homology <RRN>
Query Match 69.2%; Score 36; DB 2; Length 1375;
Best Local Similarity 66.7%; Pred. No. 1.5e+02;
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db 810 ESDPTGDEY 818
RESULT 13
A42551
genome polyprotein - dengue virus type 1 (strain Singapore S275/90)
N:Contains: capsid protein; envelope protein; membrane protein; nonstructural protein NS
a; nonstructural protein NS4b; nonstructural protein NS5
C:Species: dengue virus type 1
C>Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 19-Jan-2001
C:Accession: A42551
R:Fu, J.; Tan, B.H.; Yap, E.H.; Chan, Y.C.; Tan, Y.H.
Virology 188, 953-958, 1992
A:Title: Full-length cDNA sequence of dengue type 1 virus (Singapore strain S275/90).
A:Reference number: A42551; MUID:92263809; PMID:1585663
A:Accession: A42551
A:Molecule type: genomic RNA
A:Residues: 1-3396 <PUJ>
A:Cross-references: GB:M87512
C:Superfamily: yellow fever virus genome polyprotein
C:Keywords: ATP; capsid protein; envelope protein; glycoprotein; nonstructural protein;
F:1-114/Product: capsid protein #status predicted <CAP>
F:115-281/Product: membrane protein precursor #status predicted <MEP>
F:205-281/Product: nonterminal signal sequence #status predicted <SIG>
F:267-279/Domain: transmembrane #status predicted <TM1>
F:282-774/Product: envelope protein #status predicted <ENV>
F:753-769/Domain: transmembrane #status predicted <TM2>
F:775-1127/Product: nonstructural protein NS1 #status predicted <NS1>
F:1128-1344/Product: nonstructural protein NS2a #status predicted <NS2A>
F:1345-1474/Product: nonstructural protein NS2b #status predicted <NS2B>
F:1475-2093/Product: nonstructural protein NS3 #status predicted <NS3>
F:1668-1675/Region: nucleotide-binding motif A (P-loop)
F:1755-1760/Region: nucleotide-binding motif B
F:1759-1762/Region: DEAH motif
F:2094-2243/Product: nonstructural protein NS4a #status predicted <NS4A>
F:2244-2492/Product: nonstructural protein NS4b #status predicted <NS4B>
F:2493-3396/Product: nonstructural protein NS5 #status predicted <NS5>
F:183,347,433/Binding site: carbohydrate (Asn) #status predicted
Query Match 69.2%; Score 36; DB 1; Length 3396;
Best Local Similarity 75.0%; Pred. No. 3.9e+02;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 EADPTGHS 8
Db 3383 ESDPKGHS 3390
RESULT 14
F70769
hypothetical protein Rv1322 - Mycobacterium tuberculosis (strain H37RV)
C:Species: Mycobacterium tuberculosis
C>Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 22-Oct-1999
C:Accession: F70769
R:Coile, S.T.; Broesch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S.
Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Holroyd, S.
Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
Nature 393, 537-544, 1998
A:Authors: Squares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.
A:Title: Deciphering the biology of Mycobacterium tuberculosis from the complete genome
A:Reference number: A70500; MUID:98295987; PMID:9634230

A;Accession: F70769
 A;Status: preliminary; nucleic acid sequence not shown; translation not shown
 A;Molecule type: DNA
 A;Residues: 1-98 <COL>
 A;Cross-references: GB:Z73902; GB:AL123456; NID:G3261576; PIDN:CAA98086.1; PID:e245016;
 A;Experimental source: strain H37RV
 C;Genetics:
 A;Gene: RV1322

Query Match 67.3%; Score 35; DB 2; Length 98;
 Best Local Similarity 66.7%; Pred. No. 14;
 Matches 6; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 24 EAGPDGHEY 32

RESULT 15

B87441
 rod shape-determining protein RodA [imported] - Caulobacter crescentus
 C;Species: Caulobacter crescentus
 C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 10-May-2001
 C;Accession: B87441
 R;Niernman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J.
 B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Kolon
 n, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M.
 Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
 A;Title: Complete Genome Sequence of Caulobacter crescentus.
 A;Reference number: A87249; MUID:21173698; PMID:11259647
 A;Accession: B87441
 A;Status: preliminary
 A;Molecule type: DNA
 A;Residues: 1-385 <SFO>
 A;Cross-references: GB:AE005673; NID:G13422932; PIDN:AAK23526.1; GSPDB:GN00148
 C;Genetics:
 A;Gene: CC1547
 C;Superfamily: rod shape-determining protein

Query Match 67.3%; Score 35; DB 2; Length 385;
 Best Local Similarity 66.7%; Pred. No. 61;
 Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 228 EADPSGKGY 236

Search completed: April 5, 2004, 15:05:53
 Job time : 13.6667 secs

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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: April 5, 2004, 14:56:31 ; Search time 3 Seconds
(without alignments)
58,579 Million cell updates/sec

Title: US-09-766-889C-8
Perfect score: 52
Sequence: 1 EADPTGHSY 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	52	100.0	309	1 MAG1_HUMAN	P43355 homo sapien
2	44	84.6	369	1 MAG8_HUMAN	P43363 homo sapien
3	43	82.7	234	1 MAG8_HUMAN	P43361 homo sapien
4	43	82.7	315	1 MAG9_HUMAN	P43362 homo sapien
5	42	80.8	319	1 MAG8_HUMAN	P43364 homo sapien
6	40	76.9	259	1 PYRK_BACAA	Q81wf3 bacillus an
7	40	76.9	259	1 PYRK_BACCR	Q819f4 bacillus ce
8	37	71.2	555	1 WETA_EMENI	P22022 emericella
9	36	69.2	314	1 MAG3_HUMAN	P43357 homo sapien
10	36	69.2	314	1 MAG6_HUMAN	P43360 homo sapien
11	36	69.2	3396	1 POIG_DENIS	P33478 d genome po
12	35	67.3	98	1 YD22_MYCTU	Q10635 mycobacteri
13	35	67.3	151	1 YD97_THETN	Q8ra33 thermocaeer
14	35	67.3	346	1 MGB4_HUMAN	O15481 homo sapien
15	35	67.3	520	1 PKM2_COREF	Q8fu14 corynebacte
16	35	67.3	925	1 NPPI_HUMAN	P22413 h ectonucle
17	35	67.3	1033	1 TIR1_ECOLI	P10486 escherichia
18	34	65.4	267	1 MLF1_MOUSE	Q9qwv4 mus musculu
19	34	65.4	268	1 MLF1_HUMAN	P58340 homo sapien
20	34	65.4	308	1 DDLB_RHILQ	Q98kb6 rhizobium l
21	34	65.4	347	1 MGB1_HUMAN	P43366 homo sapien
22	34	65.4	497	1 PEN3_ADEL2	P36716 human adeno
23	34	65.4	878	1 YB9X_YEAST	P38149 saccharomyc
24	34	65.4	1671	1 DPOL_PYRKO	P77933 pyrococcus
25	33	63.5	246	1 PS61_ARATH	O81146 arabidopsis
26	33	63.5	246	1 PS62_ARATH	Q88a82 pseudomonas
27	33	63.5	251	1 PQQC_PSESM	P19920 oligotropha
28	33	63.5	288	1 DCMW_OLICA	P20013 trameetes ve
29	33	63.5	372	1 LIGC_TRAVE	Q9bxj7 homo sapien
30	33	63.5	453	1 AMNL_HUMAN	P51687 homo sapien
31	33	63.5	488	1 SUOX_HUMAN	Q8r086 mus musculu
32	33	63.5	488	1 SUOX_MOUSE	Q07l16 rattus norv
33	33	63.5	488	1 SUOX_RAT	

34 33 63.5 503 1 VP57_BDV
35 33 63.5 573 1 SUOX_DROME
36 33 63.5 597 1 IARL_YEAST
37 33 63.5 747 1 GUND_CELFI
38 33 63.5 775 1 DPOL_THES9
39 33 63.5 1039 1 M2C1_MOUSE
40 33 63.5 1040 1 M2C1_RAT
41 33 63.5 1523 1 DPOL_THEFM
42 33 63.5 1568 1 DPOL_THEHY
43 33 63.5 2273 1 HPA1_YEAST
44 32 61.5 133 1 REV_CAEVC
45 32 61.5 173 1 YCF3_SYNEL

ALIGNMENTS

RESULT 1
MAG1_HUMAN
ID MAG1_HUMAN STANDARD; PRT; 309 AA.
AC P43355; O00346;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 15-NOV-2004 (Rel. 43, Last annotation update)
DE Melanoma-associated antigen 1 (MAGE-1 antigen) (Antigen M22-B).
GN MAGEA1 OR MAGE1 OR MAGE1A.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RX SEQUENCE FROM N.A.
RP MEDLINE=92086861; PubMed=1840703;
RA van der Bruggen P., Traversari C., Chomez P., Lurquin C., de Plaen E.,
van den Eynde B., Knuth A., Boon T.;
RT "A gene encoding an antigen recognized by cytolytic T lymphocytes on
a human melanoma.";
RL Science 254:1643-1647(1991).
RN [2]
RX SEQUENCE FROM N.A.
RP TISSUE=Skin;
RC MEDLINE=94311935; PubMed=8037761;
RX Ding M., Beck R.J., Keller C.J., Fenton R.G.;
RT "Cloning and analysis of MAGE-1-related genes.";
RL Biochem. Biophys. Res. Commun. 202:549-555(1994).
RN [3]
RX SEQUENCE FROM N.A.
RP MEDLINE=20314869; PubMed=10854409;
RA Mallon A.M., Platzer M., Bates R., Gloeckner G., Botcherby M.,
Nordsiek G., Strivens M.A., Kioschis P., Dangel A., Cunningham D.,
Straw R., Weston P., Hunter C., Gilbert M., Fernando S., Goodall K.,
Kerry G., Greystrom J.S., Clark D., Goerdes M., Blechschmidt K.,
Rump A., Hinzmann B., Mundy C.R., Miller W., Poustka A., Herman G.E.,
Rhodes M., Denny P., Rosenthal A., Brown S.D.M.;
RT "Comparative genome sequence analysis of the Bpa/Str region in mouse
and man.";
RL Genome Res. 10:758-775(2000).
RN [4]
RX SEQUENCE FROM N.A., AND VARIANT ALA-32.
RA Chen H., Wang L., Mei M., Qin L., Cong X., Xu J., Wei L., Wang Y.,
Chen W.;
RT "The polymorphism of MAGE-1 gene in Chinese people.";
RL Submitted (SEP-2002) to the EMBL/GenBank/DBJ databases.
RN [5]
RX MUTAGENESIS.
RP TISSUE=Blood;
RC MEDLINE=94157413; PubMed=8113684;
RX Gaugler B., van den Eynde B., van der Bruggen P., Romero P.,
Gaforio J.J., de Plaen E., Lethe B., Brasseur P., Boon T.;
RT "Human gene MAGE-3 codes for an antigen recognized on a melanoma by
autologous cytolytic T lymphocytes.";
RL J. Exp. Med. 179:921-930(1994).
RN [6]

P52638 borna disea
Q9wvp4 drosophila
P33417 saccharomyc
P50400 cellulomona
Q56366 thermococcu
Q91w89 mus musculu
P21139 rattus norv
P74918 thermococcu
Q9hh05 thermococcu
P32874 saccharomyc
P33460 caprine art
Q8diq6 synechococc

DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Melanoma-associated antigen 8 (MAGE-8 antigen).
 GN MAGE8 OR MAGE8.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95012457; PubMed=7927540;
 RA de Plaen E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
 RA de Smet C., Brasseur F., van der Bruggen P., Lethe B., Lurquin C.,
 RA Brasseur R., Chomez P., de Backer O., Cavenee W., Boon T.;
 RT "Structure, chromosomal localization, and expression of 12 genes of
 RT the MAGE family";
 RL Immunogenetics 40:360-369(1994).
 CC -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN EMBRYONAL
 CC DEVELOPMENT AND TUMOR TRANSFORMATION OR ASPECTS OF TUMOR
 CC PROGRESSION.
 CC -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
 CC SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
 CC CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
 CC FOR TESTES AND PLACENTA.
 CC -!- SIMILARITY: Contains 1 MAGE domain.
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 DR EMBL; U10693; AAA68876.1; -;
 DR PIR; I38667; I38667.
 DR GENEW; HGNC:6806; MAGE8.
 DR MIM; 300341;
 DR InterPro; IPR002190; MAGE.
 DR Pfam; PF01454; MAGE; 1.
 DR PROSITE; PS00838; MAGE; 1.
 DR Antigen; Multigene family; Tumor antigen.
 FT DOMAIN 112 234
 FT DOMAIN 40 43 POLY-SER
 SQ SEQUENCE 234 AA; 25197 MW; 059A92EB5003A982 CRC64;
 Query Match 82.7%; Score 43; DB 1; Length 234;
 Best Local Similarity 77.8%; Pred. No. 0.43;
 Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 DB 171 EVDPAHGSY 179
 RESULT 4
 ID MAGE9 HUMAN STANDARD; PRT; 315 AA.
 AC P43362; Q92910;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Melanoma-associated antigen 9 (MAGE-9 antigen).
 GN MAGE9 OR MAGE9.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95012457; PubMed=7927540;
 RA de Plaen E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
 RA de Smet C., Brasseur F., van der Bruggen P., Lethe B., Lurquin C.,
 RA Brasseur R., Chomez P., de Backer O., Cavenee W., Boon T.;
 RT "Structure, chromosomal localization, and expression of 12 genes of
 RT the MAGE family";
 RL Immunogenetics 40:360-369(1994).
 CC -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN EMBRYONAL
 CC DEVELOPMENT AND TUMOR TRANSFORMATION OR ASPECTS OF TUMOR
 CC PROGRESSION.
 CC -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
 CC SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
 CC CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
 CC FOR TESTES AND PLACENTA.
 CC -!- SIMILARITY: Contains 1 MAGE domain.
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 CC or send an email to license@isb-sib.ch).
 DR EMBL; U10694; AAA68877.1; -;
 DR EMBL; U66083; AAB67888.1; -;
 DR EMBL; BC002351; AAB02351.1; -;
 DR PIR; I38668; I38668.
 DR GENEW; HGNC:6807; MAGEA9.
 DR MIM; 300342; -;
 DR InterPro; IPR002190; MAGE.
 DR Pfam; PF01454; MAGE; 1.
 DR PROSITE; PS00838; MAGE; 1.
 DR Antigen; Multigene family; Tumor antigen.
 FT DOMAIN 108 307
 FT DOMAIN 34 37 POLY-GLU.
 FT DOMAIN 87 90 POLY-GLU.
 SQ SEQUENCE 315 AA; 35088 MW; 7FD2ED10D680D928 CRC64;
 Query Match 82.7%; Score 43; DB 1; Length 315;
 Best Local Similarity 77.8%; Pred. No. 0.59;
 Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 DB 167 EVDPAHGSY 175

```

RESULT 5
MAGE HUMAN
ID MAGE_HUMAN STANDARD; PRT; 319 AA.
AC P43364;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Melanoma-associated antigen 11 (MAGE-11 antigen).
GN MAGE11 OR MAGE11.
OS Homo sapiens (Human)
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95012457; PubMed=7927540;
RA de Plaen E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
RA de Smet C., Brasseur F., van der Bruggen P., Lethe B., Lurquin C.,
RA Brasseur R., Chomez P., de Backer O., Cavense W., Boon T.;
RT "Structure, chromosomal localization, and expression of 12 genes of
RT the MAGE family.";
RL Immunogenetics 40:360-369(1994).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Skin;
RX MEDLINE=22389257; PubMed=12477932;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heish P.,
RA Diatchenko L., Marushina K., Farmer A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Donald M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S.I., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahy J., Helton E., Kettner M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickinson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalish J.,
RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length
RT human and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN EMBRYONAL
CC DEVELOPMENT AND TUMOR TRANSFORMATION OR ASPECTS OF TUMOR
CC PROGRESSION.
CC -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
CC SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
CC CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
CC FOR TESTES AND PLACENTA.
CC -!- SIMILARITY: Contains 1 MAGE domain.
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CC -----
CC EMBL; U10686; AAA68870.1; --
CC EMBL; BC004479; AAA04479.1; --
CC PIR; I36660; I36660
CC Genew; HGNC:6798; MAGE11.
CC MIM; 300344; --
CC InterPro; IPR002190; MAGE.
CC Pfam; PF01454; MAGE; 1.
CC PROSITE; PS00838; MAGE; 1.
CC Antigen; Multigene family; Tumor antigen.
CC DOMAIN 112 311
CC YAGE.

SQ SEQUENCE 319 AA; 35536 MW; F51A0B4140277BE3 CRC64;
Query Match 80.8%; Score 42; DB 1; Length 319;
Best Local Similarity 77.8%; Pred. No. 0.93;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db 171 EVDPTGHSY 179

RESULT 6
PYRK_BACAA
ID PYRK_BACAA STANDARD; PRT; 259 AA.
AC Q81WF3;
DT 15-MAR-2004 (Rel. 43, Created)
DT 15-MAR-2004 (Rel. 43, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Dihydroorotate dehydrogenase electron transfer subunit.
GN PYRK OR BA0424.
OS Bacillus anthracis (strain Ames).
OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
OX NCBI_TaxID=198094;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=22608414; PubMed=12721629;
RA Read T.D., Peterson S.N., Tourasse N., Baillie L.W., Paulsen I.T.,
RA Nelson K.E., Tettelin H., Fouts D.E., Eisen J.A., Gill S.R.,
RA Holtzapple E.K., Okstad O.A., Helgason E., Rilstone J., Wu M.,
RA Kolonay J.F., Beanan M.J., Dodson R.J., Brinkac L.M., Gwinn M.,
RA DeBoy R.T., Madpu R., Dagherty S.C., Durkin A.S., Haft D.H.,
RA Nelson W.C., Peterson J.D., Pop M., Khouri H.M., Radune D.,
RA Benton J.L., Mahamoud Y., Jiang L., Hance I.R., Weidman J.F.,
RA Berry K.J., Plaut R.D., Wolf A.M., Watkins K.L., Nierman W.C.,
RA Hazen A., Cline R., Redmond C., Thwaite J.E., White O., Salzberg S.L.,
RA Thomson B., Friedlander A.M., Koehler T.M., Hanna P.C., Kolsto A.-B.,
RA Fraser C.M.;
RT "The genome sequence of Bacillus anthracis Ames and comparison to
RT closely related bacteria.";
RL Nature 423:81-86(2003).
CC -!- FUNCTION: Is responsible for channelling the electrons from the
CC oxidation of dihydroorotate from the FMN redox center in the pyrD
CC subunit to the ultimate electron acceptor NAD(+) (By similarity).
CC -!- COFACTOR: Binds 1 2Fe-2S cluster and 1 FAD per subunit (By
CC similarity).
CC -!- PATHWAY: Pyrimidine biosynthesis; fourth step.
CC -!- SUBUNIT: Heterotetramer of 2 pyrk and 2 pyrD subunits (By
CC similarity).
CC -!- SIMILARITY: Belongs to the pyrk family.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; AB017036; AAP27751.1; --
CC TIGR; BA0024; --
CC HAMAP; MF_01211; -; 1.
CC InterPro; IPR001834; Cyt B5 reductase.
CC InterPro; IPR008333; FAD binding 6.
CC InterPro; IPR000951; PhdTox reductase.
CC Pfam; PF00370; FAD binding 6; 1.
CC PRINTS; PR00406; CYTB5REDTASE.
CC PRINTS; PR00409; PHDIOXREDTASE.
CC PROSITE; PS00197; 2FE2S_FERREDOXIN; FALSE NEG.
CC Iron; Iron-sulfur; 2Fe-2S; Flavoprotein; FAD; Complete proteome.
CC METAL 221 221 IRON-SULFUR 1 (2FE-2S) (BY SIMILARITY).
CC METAL 226 226 IRON-SULFUR 1 (2FE-2S) (BY SIMILARITY).
CC METAL 229 229 IRON-SULFUR 2 (2FE-2S) (BY SIMILARITY).

```

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FT METAL 246 246 IRON-SULFUR 2 (2FE-2S) (BY SIMILARITY).
SQ SEQUENCE 259 AA; 28439 MW; DC2768827E220805 CRC64;

Query Match 76.9%; Score 40; DB 1; Length 259;
Best Local Similarity 66.7%; Pred. No. 1.8;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
: |||:||||
Db 234 QEDPSGHSY 242

RESULT 7
PYRK_BACCR STANDARD; PRT; 259 AA.
ID PYRK_BACCR
AC Q819S4;
DT 15-MAR-2004 (Rel. 43, Created)
DT 15-MAR-2004 (Rel. 43, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Dihydroxycrotonate dehydrogenase electron transfer subunit.
GN PYRK OR BC3885.
OS Bacillus cereus (strain ATCC 14579 / DSM 31).
OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
OX NCBI_TaxID=226900;
RN [1]
SEQUENCE FROM N.A.
RX MEDLINE=22608415; PubMed=12721630;
RA Ivanova N., Sorokin A., Anderson I., Galleron N., Candelon B.,
RA Kapatal V., Bhattacharya A., Reznik G., Mikhailova N., Lapidus A.,
RA Chu L., Mazur M., Goltzman E., Larsen N., D'Souza M., Walunas T.,
RA Grechkin Y., Pusch G., Haselkorn R., Fonstein M., Ehrlich S.D.,
RA Overbeek R., Kyrides N.,
RA "Genome sequence of Bacillus cereus and comparative analysis with
RA Bacillus anthracis."
RT Nature 423:87-91(2003).
RL CC
CC -!- FUNCTION: Is responsible for channelling the electrons from the
CC oxidation of dihydroxycrotonate from the FMN redox center in the pyrd
CC submit to the ultimate electron acceptor NAD(+). (By similarity).
CC -!- COPACITOR: Binds 1 2Fe-2S cluster and 1 FAD per subunit (By
CC similarity).
CC -!- PATHWAY: Pyrimidine biosynthesis; fourth step.
CC -!- SUBUNIT: Heterotetramer of 2 pyrk and 2 pyrd subunits (By
CC similarity).
CC -!- SIMILARITY: Belongs to the pyrk family.
CC
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CC or send an email to license@isb-sib.ch).
CC
CC -----
CC DR EMBL; AE017010; AAP10806.1; -.
CC DR HAMAP; MF_01211; -.
CC DR InterPro; IPR001834; Cyt B5 reductase.
CC DR InterPro; IPR008333; FAD binding 6.
CC DR InterPro; IPR000951; PhdOx reductase.
CC DR Pfam; PF00970; FAD binding 6; 1.
CC DR PRINTS; PR00406; CYTB5RDTASE.
CC DR PROSITE; PRO0409; PHDIOXRDASE.
CC DR PROSITE; PS00197; 2FE2S FERREDIOXIN; FALSE NEG.
KW Pyrimidine biosynthesis; Transport; Electron transport; Metal-binding;
KW Iron; Iron-sulfur; 2Fe-2S; Flavoprotein; FAD; Complete proteome.
FT METAL 221 221 IRON-SULFUR 1 (2FE-2S) (BY SIMILARITY).
FT METAL 226 226 IRON-SULFUR 1 (2FE-2S) (BY SIMILARITY).
FT METAL 229 229 IRON-SULFUR 2 (2FE-2S) (BY SIMILARITY).
FT METAL 246 246 IRON-SULFUR 2 (2FE-2S) (BY SIMILARITY).
SQ SEQUENCE 259 AA; 28416 MW; D8F893A27E25919B CRC64;

Query Match 76.9%; Score 40; DB 1; Length 259;
Best Local Similarity 66.7%; Pred. No. 1.8;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
```

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QY 1 EADPTGHSY 9
: |||:||||
Db 234 QEDPSGHSY 242

RESULT 8
WETA_EMENI STANDARD; PRT; 555 AA.
ID WETA_EMENI
AC P22022;
DT 01-AUG-1991 (Rel. 19, Created)
DT 01-FEB-1996 (Rel. 33; Last sequence update)
DT 15-MAR-2004 (Rel. 43; Last annotation update)
DE Regulatory protein WETA.
GN WETA.
OS Emericella nidulans (Aspergillus nidulans).
OC Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
OC Eurotiales; Trichocomaceae; Emericella.
OX NCBI_TaxID=162425;
RN [1]
SEQUENCE FROM N.A.
RX MEDLINE=91094871; PubMed=1986246;
RA Marshall M.A., Timberlake W.E.;
RA "Aspergillus nidulans weta activates spore-specific gene expression.";
RL Mol. Cell. Biol. 11:55-62(1991).
CC -!- FUNCTION: Responsible for activating a set of genes whose products
CC make up the final two conidial wall layers or direct their
CC assembly and though this activity is responsible for acquisition
CC of spore dormancy.
CC -!- FUNCTION: Bria, abaA and weta are pivotal regulators of
CC conidiphore development and conidium maturation. They act
CC individually and together to regulate their own expression and
CC that of numerous other sporulation-specific genes.
CC -!- DEVELOPMENTAL STAGE: The weta gene is activated only during
CC conidiphore development, and its mRNA accumulates preferentially
CC in mature conidia.
CC -!- DOMAIN: Has an acidic N-terminus (AA 1-52) followed by a Ser-,
CC Thr-, Pro-rich domain (AA 125-233) and a basic C-terminus (AA
CC 461-555).
CC -!- SIMILARITY: TO P.CHRYSOGENUM WETA.
CC
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CC
CC -----
CC DR EMBL; M60528; AAA33330.1; -.
CC DR PIR; A39665; RGASWA.
CC DR Developmental protein; Conidiation; Transcription regulation;
CC KW Activator.
CC SQ SEQUENCE 555 AA; 60275 MW; 4C9F51708D61400E CRC64;

Query Match 71.2%; Score 37; DB 1; Length 555;
Best Local Similarity 87.5%; Pred. No. 16;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 EADPTGHS 8
: |||:||||
Db 109 EADATGHS 116

RESULT 9
MAG3_HUMAN STANDARD; PRT; 314 AA.
ID MAG3_HUMAN
AC P43357;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32; Last sequence update)
DT 10-OCT-2003 (Rel. 42; Last annotation update)
DE Melanoma-associated antigen 3 (MAGE-3 antigen) (Antigen MZ2-D).
GN MAGEA3 OR MAGE3.
```

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CC -----
DR ENBL; U03735; AAA17446.1; -.
DR ENBL; U82671; -, NOT ANNOTATED CDS.
DR ENBL; BC000340; AAH00340.1; -.
DR ENBL; BC005963; AAH05963.1; -.
DR ENBL; BC011744; AAH11744.1; -.
DR ENBL; BC016803; AAH16803.1; -.
DR ENBL; BC017389; AAH17389.1; -.
DR PIR; JC2361; JC2361.
DR Genew; HGNC:6801; MAGEA3.
DR MIM; 300174; -.
DR InterPro; IPR002190; MAGE.
DR Pfam; PF01454; MAGE; 1.
DR PROSITE; PS00838; MAGE; 1.
DR Antigen; Multigene family; Tumor antigen.
DR FT DOMAIN 109 308 MAGE.
DR FT DOMAIN 40 43 POLY-SER.
DR FT MUTAGEN 170 170 D-SA: ABOLISHES HLA-A1 BINDING.
DR FT MUTAGEN 176 176 Y-SA: ABOLISHES HLA-A1 BINDING.
DR SQ SEQUENCE 314 AA; 34747 MW; 3F5EB13D1C9946A1 CRC64;
Query Match 69.2%; Score 36; DB 1; Length 314;
Best Local Similarity 66.7%; Pred. No. 13;
Matches 6; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db |||||
168 EVDPHGLY 176

RESULT 10
MAG6 HUMAN STANDARD; PRT; 314 AA.
AC P43360;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Melanoma-associated antigen 6 (MAGE-6 antigen) (MAGE3B).
DE MAGEA6 OR MAGE6.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
CX NCBI_TaxID=9606;
RN [1]
RX SEQUENCE FROM N.A.
RP MEDLINE=95012457; PubMed=7927540;
RR de Plaan E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
RA de Smet C., Brasseur P., van der Bruggen P., Jethé B., Lurquin C.,
RA Brasseur R., Chomez P., de Backer O., Cavenée W., Boon T.;
RT "Structure, chromosomal localization, and expression of 12 genes of
RT the MAGE family.";
RNL Immunogenetics 40:360-369(1994).
RN [2]
RR SEQUENCE FROM N.A.
RP TISSUE=Skin;
RC MEDLINE=94311935; PubMed=8037761;
RX Ding M., Beck R.J., Keller C.J., Fenton R.G.;
RR "Cloning and analysis of MAGE-1-related genes.";
RNL Biochem. Biophys. Res. Commun. 202:549-555(1994).
RN [3]
RR SEQUENCE FROM N.A.
RP MEDLINE=95359706; PubMed=7642112;
RX Imai Y., Shichijo S., Yamada A., Katayama T., Yano H., Itoh K.;
RR "Sequence analysis of the MAGE gene family encoding human tumor-
RT rejection antigens.";
RNL Gene 160:287-290(1995).
RN [4]
RR SEQUENCE FROM N.A.
RP TISSUE=Brain;
RC MEDLINE=22388257; PubMed=12477932;
RX Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RR Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

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RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.D., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahney J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickens M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krywinski M.I., Skalska U., Smalhus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Maier M.A.,
RT "Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
CC -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN TUMOR
OR ASPECTS OF TUMOR PROGRESSION.
CC -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
FOR TESTES.
CC -!- SIMILARITY: Contains 1 MAGE domain.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
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DR EMBL; U10691; AAA68875.1; -;
DR EMBL; U10339; AAA19006.1; -;
DR EMBL; D32076; BAA06842.1; -;
DR EMBL; BC041599; AHA41599.1; -;
DR F1R; JC2360; JC2360.
DR Genew; HGNC:6804; MAGEA5.
DR MIM; 300176; -;
DR InterPro; IPR002190; MAGE.
DR Pfam; PF0454; MAGE; 1.
DR PROSITE; PS50838; MAGE; 1.
KW Antigen; Multigene family; Tumor antigen.
FT DOMAIN 109 308
FT DOMAIN 40 43
FT DOMAIN 314 AA; 34891 MW; 29B83C7FA6E50263 CRC64;
SQ SEQUENCE 314 AA; 34891 MW; 29B83C7FA6E50263 CRC64;
Query Match 69.2%; Score 36; DB 1; Length 314;
Best Local Similarity 66.7%; Pred. No. 13;
Matches 6; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EADPTGCHSY 9
DQ 168 EVDPIGHVY 176
RESULT 11
POLG DENIS
ID POLG DENIS STANDARD; PRT; 3396 AA.
AC P33478;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 43, Last annotation update)
DE Genome polypeptide [Contains: Capsid protein C (Core protein); Matrix
protein (Envelope protein M); Major envelope protein E; Nonstructural
proteins NS1, NS2A, NS2B, NS4A and NS4B; Protease/helicase
(EC 3.4.21.98) (NS3); RNA-directed RNA polymerase (EC 2.7.7.48)
(NS5)].
DE Dengue virus type 1 (strain Singapore S275/90).
OS Viruses; ssRNA positive-strand viruses, no DNA stage; Flaviviridae;
OC Flavivirus.

OX NCBI_TaxID=33741;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92263809; PubMed=1585663;
RA Fu J., Tan B.H., Yap E.H., Chan Y.C., Tan Y.H.;
RT "Full-length cDNA sequence of dengue type 1 virus (Singapore strain
S275/90).";
RL Virology 188:953-958 (1992).
CC -!- CATALYTIC ACTIVITY: Hydrolysis of four peptide bonds in the viral
precursor polyprotein, commonly with Asp or Glu in the P6
position, Cys or Thr in P1 and Ser or Ala in P1'.
CC -!- CATALYTIC ACTIVITY: N nucleoside triphosphate = N diphosphate +
(RNA) (N).
CC -!- SUBUNIT: The virion of this virus is a nucleocapsid covered by a
lipoprotein envelope. The envelope consists of three proteins:
protein prM, protein M and glycoprotein E. The nucleocapsid is a
complex of protein C and mRNA.
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CC EMBL; M87512; -; NOT_ANNOTATED_CDS.
DR F1R; A42551; A42551.
DR InterPro; IPR009003; Cys_Ser_trypsin.
DR InterPro; IPR001410; DEAD.
DR InterPro; IPR001122; Flavi_capsidC.
DR InterPro; IPR000336; Flavi_glycoprote.
DR InterPro; IPR000089; Flavi_M.
DR InterPro; IPR001157; Flavi_NS1.
DR InterPro; IPR000752; Flavi_NS2A.
DR InterPro; IPR000487; Flavi_NS2B.
DR InterPro; IPR000404; Flavi_NS4B.
DR InterPro; IPR001528; Flavi_NS4B.
DR InterPro; IPR000208; Flavi_NS5.
DR InterPro; IPR002535; Flavi_propep.
DR InterPro; IPR001650; Helicase_C.
DR InterPro; IPR007110; Ig-like.
DR InterPro; IPR001850; Peptidase_S7.
DR InterPro; IPR007095; RNA_pol_DS_PS.
DR InterPro; IPR007094; RNA_pol_PSVir.
DR InterPro; IPR002877; RmJ_FtsJ.
DR Pfam; PF01003; Flavi_capsid; 1.
DR Pfam; PF02832; Flavi_glycop_C; 1.
DR Pfam; PF00869; Flavi_glycoprot; 1.
DR Pfam; PF00949; Flavi_helicase; 1.
DR Pfam; PF01004; Flavi_M; 1.
DR Pfam; PF00948; Flavi_NS1; 1.
DR Pfam; PF01005; Flavi_NS2A; 1.
DR Pfam; PF01002; Flavi_NS2B; 1.
DR Pfam; PF01350; Flavi_NS4A; 1.
DR Pfam; PF01349; Flavi_NS4B; 1.
DR Pfam; PF00972; Flavi_NS5; 1.
DR Pfam; PF01570; Flavi_propep; 1.
DR Pfam; PF01728; FtsJ; 1.
DR Pfam; PF00271; helicase_C; 1.
DR ProDom; PD001556; Flavi_glycoprote; 1.
DR ProDom; PD001496; Flavi_NS1; 1.
DR SMART; SM00487; DEXDC; 1.
DR SMART; SM00490; HELICC; 1.
DR PROSITE; PS00690; DEAD_ATP_HELICASE; FALSE NEG.
KW Polyprotein; Glycoprotein; Transferase; RNA-directed RNA polymerase;
Core protein; Coat protein; Envelope protein; Helicase;
KW ATP-binding; Transmembrane; Nonstructural protein.
FT CHAIN 1 114
FT PROPEP 115 205
FT CHAIN 206 280
FT CHAIN 281 774
FT CHAIN 775 1127
FT ENVELOPE GLYCOPROTEIN M (POTENTIAL).
FT MAJOR ENVELOPE PROTEIN E (POTENTIAL).
FT NONSTRUCTURAL PROTEIN NS1 (POTENTIAL).

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RP SEQUENCE FROM N.A.
RC SPECIES=M.bovis; STRAIN=AF2122/97;
RX MEDLINE=22709107; PubMed=12788972;
RA Garner T., Eiglmayer K., Camus J.-C., Medina N., Mansoor H.,
RA Pryor M., Duthoy S., Grondin S., Lacroix C., Monsemp C., Simon S.,
RA Harris B., Atkin R., Doggett J., Mayes R., Keating L., Wheeler P.R.,
RA Parkhill J., Barrell B.G., Cole S.T., Gordon S.V., Hewinson R.G.;
RT "The complete genome sequence of Mycobacterium bovis.";
RL Proc. Natl. Acad. Sci. U.S.A. 100:7877-7882(2003).
CC -----
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CC -----
CC EMBL; Z73902; CAA98086.1; -.
DR EMBL; A5007009; AAK45626.1; -.
DR EMBL; BX248338; CAD94217.1; -.
DR PIR; F70769; F70769.
DR TIGR; MT1363.1; -.
DR Tuberculist; Rv1322; -.
KW Hypothetical protein; Complete proteome.
SQ SEQUENCE 98 AA; 11334 MW; 72DF33A68405AB4B CRC64;

Query Match 67.3%; Score 35; DB 1; Length 98;
Best Local Similarity 66.7%; Pred. No. 6;
Matches 6; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 24 EAGPDGHEY 32

RESULT 13
YD97 THETN STANDARD; PRT; 151 AA.
ID YD97 THETN STANDARD; PRT; 151 AA.
AC Q8RA33;
AT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Hypothetical UPF0090 protein TTE1397.
GN TTE1397
OS Thermoanaerobacter tengcongensis.
OC Bacteria; Firmicutes; Clostridia; Thermoanaerobacteriales;
OC Thermoanaerobacteriaceae; Thermoanaerobacter.
NCBI_TaxID=119072;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=MB4 / JCM 11007;
RX MEDLINE=21992816; PubMed=11977336;
RA Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S., Dong W., Yang J.,
RA Chen Y., Xue Y., Xu Y., Lai X., Huang L., Dong X., Ma Y., Ling L.,
RA Tan H., Chen R., Wang J., Yu J., Yang H.;
RT "A complete sequence of T. tengcongensis genome.";
RL Genome Res. 12:689-700(2002).
CC -----
CC !- SIMILARITY: Belongs to the UPF0090 family.
CC -----
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CC -----
CC EMBL; AE013099; AAM24619.1; -.
DR HAWAP; MF_01077; -.
DR InterPro; IPR003728; DUF150.
DR Pfam; PF02576; DUF150; 1.
KW Hypothetical protein; Complete proteome

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SQ SEQUENCE 151 AA; 17795 MW; 8B10BAF22056DD9 CRC64;
Query Match 67.3%; Score 35; DB 1; Length 151;
Best Local Similarity 66.7%; Pred. No. 9.6;
Matches 6; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 65 EVDPIHSHY 73

RESULT 14
MGB4_HUMAN
AC O15481; STANDARD; PRT; 346 AA.
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Melanoma-associated antigen B4 (MAGE-B4 antigen).
GN MAGEB4.
OS Homo sapiens (Human)
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
SEQUENCE FROM N.A.
RX MEDLINE=98110575; PubMed=9441743;
RA Lurquin C., de Smet C., Brasseur F., Muscatelli F., Martelange V.,
de Plaen E., Brasseur R., Monaco A.P., Boon T.;
RA "Two members of the human MAGEB gene family located in Xp21.3 are
expressed in tumors of various histological origins.";
RL Genomics 46:397-408(1997).
RN [2]
SEQUENCE FROM N.A.
RP Muzny D., Aronson A.D., Adams C., Brundage E., Bunac C., Carvelli K.,
Chacko J., Chen J., Di W., Ding Y., Dugan S., Durbin J., Forcum J.,
Ganesh R., Garcia C., Goodman M., Gorrell J.H., Haywood M.,
Hernandez J., Jackson L., Jin S., Karpal R., Karpethy S., Kovar C.,
Leal B., Li Y., Lichtarge O., Liu W., Logan O., Lu J., Ly T.,
Martinez C., Oswal G., Perez L., Rashid N.D., Rowland K., Savage L.,
Scherer S.E., Shen H., Simon M., Stovall K., Timms K.M., Todd J.,
Vo Q., Williamson A., Worley K.C., Yu W., Chinault C., Nelson D.,
Gibbs R.A.;
RA Submitted (Oct1998) to the EMBL/GenBank/DBJ databases.
RL TISSUE SPECIFICITY: Expressed in testis.
CC -!- SIMILARITY: Contains 1 MAGE domain.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC EMBL; U93163; AAC23619.1; -.
DR EMBL; AC005185; AAD10637.1; -.
DR Genew; HGNC:6811; MAGEB4.
DR MIM; 300153; -.
DR InterPro; IPR002190; MAGE.
DR Pfam; PF01454; MAGE; 1.
DR PROSITE; PS50838; MAGE; 1.
KW Antigen; Multigene family.
FT DOMAIN 109 307 MAGE.
SQ SEQUENCE 346 AA; 38923 MW; 804F26CDB50F036A CRC64;

Query Match 67.3%; Score 35; DB 1; Length 346;
Best Local Similarity 66.7%; Pred. No. 23;
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 168 EVNPTTHSY 176

us-09-766-889c-8.rsp

RESULT 15
PKN2_COREF
ID PKN2_COREF STANDARD; PRT; 520 AA.
AC Q8FU14;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Serine/threonine protein kinases drp72 (EC 2.7.1.37).
GN CE0034.
OS Corynebacterium efficiens.
OC Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
OC Corynebacterineae; Corynebacteriaceae; Corynebacterium.
OX NCBI_TaxID=152794;
RN [1]
SEQUENCE FROM N.A.
RP STRAIN=YS-314 / AJ 12310 / DSM 44549 / JCM 11189;
RX MEDLINE=22723752; PubMed=12840036;
RA Nishio Y., Nakamura Y., Kawarabayasi Y., Usuda Y., Kimura E.,
Suginoto S., Matsui K., Yamagishi A., Kikuchi H., Ikeo K.,
Gojobori I.;
RA "Comparative complete genome sequence analysis of the amino acid
RT replacements responsible for the thermostability of Corynebacterium
efficiens.";
RL Genome Res. 13:1572-1579(2003).
CC -!- CATALYTIC ACTIVITY: ATP + a protein = ADP + a phosphoprotein.
CC -!- SIMILARITY: Belongs to the Ser/Thr family of protein kinases.
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or send an email to license@isb-sib.ch).
CC EMBL; AP005214; BAC16844.1; -.
DR InterPro; IPR000719; Prot_kinase.
DR InterPro; IPR008271; Ser_Thr_kinase.
DR InterPro; IPR002290; Ser_Thr_kinase.
DR InterPro; IPR001245; Tyr_kinase.
DR Pfam; PF00069; pkinase; 1.
DR ProDom; PD000001; Prot_kinase; 1.
DR SMART; SM00220; S_TKG; 1.
DR SMART; SM00219; TyKc; 1.
DR PROSITE; PS00107; PROTEIN_KINASE_ATP; 1.
DR PROSITE; PS50011; PROTEIN_KINASE_DOM; 1.
DR PROSITE; PS00108; PROTEIN_KINASE_ST; 1.
KW Transferase; Serine/threonine-protein kinase; ATP-binding;
Complete proteome.
FT DOMAIN 20 281 PROTEIN_KINASE.
FT DOMAIN 372 492 PRO/THR-RICH.
FT NP_BIND 26 34 ATP [BY SIMILARITY].
FT BINDING 49 49 ATP [BY SIMILARITY].
FT ACT_SITE 148 148 BY SIMILARITY.
SQ SEQUENCE 520 AA; 54630 MW; 84CC987F9F902F9 CRC64;

Query Match 67.3%; Score 35; DB 1; Length 520;
Best Local Similarity 62.5%; Pred. No. 36;
Matches 5; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 2 ADPTGHSY 9
Db 90 ADPAGTTF 97

Search completed: April 5, 2004, 15:03:12
Job time : 9 secs
```

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GenCore version 5.1.1.6
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OM protein - protein search, using sw model

Run on: April 5, 2004, 14:57:16 ; Search time 33.3333 Seconds
(without alignments)
85.190 Million cell updates/sec

Title: US-09-766-889C-8
Perfect score: 52
Sequence: 1 EADPTGHSY 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

SPTREMBL 25: *
1: sp_archaea: *
2: sp_bacteria: *
3: sp_fungi: *
4: sp_human: *
5: sp_invertebrate: *
6: sp_mammal: *
7: sp_mhc: *
8: sp_organelle: *
9: sp_phage: *
10: sp_plant: *
11: sp_rodent: *
12: sp_virus: *
13: sp_vertebrate: *
14: sp_unclassified: *
15: sp_virus: *
16: sp_bacteriap: *
17: sp_archaeap: *

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	43	82.7	315	4: Q7Z5K4	Q7Z5K4 homo sapien
2	43	82.7	318	4: Q9BUN9	Q9BUN9 homo sapien
3	40	76.9	259	16: Q81WF3	Q81WF3 bacillus an
4	40	76.9	259	16: Q819S4	Q819S4 bacillus ce
5	38	73.1	129	17: Q9YDL2	Q9YDL2 aeropyrum p
6	38	73.1	130	16: Q825J6	Q825J6 streptomyce
7	38	73.1	305	16: Q9H2X1	Q9H2X1 pseudomonas
8	37	71.2	345	16: Q89L61	Q89L61 bradyrhizob
9	37	71.2	604	11: Q8BQ25	Q8BQ25 mus musculu
10	37	71.2	748	5: Q9NJI4	Q9NJI4 aplysia cal
11	37	71.2	975	16: Q825Y1	Q825Y1 streptomyce
12	37	71.2	1032	11: Q61989	Q61989 mus musculu
13	37	71.2	1198	16: Q8A192	Q8A192 bacteroides
14	36	69.2	208	16: Q82L14	Q82L14 streptomyce
15	36	69.2	263	16: Q88VG7	Q88VG7 lactobacill
16	36	69.2	323	10: Q8L4Z2	Q8L4Z2 oryza sativ

17	36	69.2	518	10: Q9FTE2	Q9FTE2 oryza sativ
18	36	69.2	545	17: Q978S2	Q978S2 thermoplas
19	36	69.2	574	16: Q881Y2	Q881Y2 pseudomonas
20	36	69.2	941	5: Q9NEC3	Q9NEC3 leishmania
21	36	69.2	1068	10: Q9AXF7	Q9AXF7 chlamydomon
22	36	69.2	1156	4: Q9NZP6	Q9NZP6 homo sapien
23	36	69.2	1375	3: Q9UTI9	Q9UTI9 schizosacch
24	36	69.2	2457	12: Q41965	Q41965 murid herpe
25	36	69.2	2941	16: Q7UEZ5	Q7UEZ5 rhodopirell
26	35	67.3	84	2: Q8GF41	Q8GF41 zymomonas m
27	35	67.3	131	16: Q85701	Q85701 streptomyce
28	35	67.3	246	16: Q82R69	Q82R69 streptomyce
29	35	67.3	274	4: Q7Z3P5	Q7Z3P5 homo sapien
30	35	67.3	275	16: Q8EFA9	Q8EFA9 shewanella
31	35	67.3	311	6: Q9BG82	Q9BG82 felis silve
32	35	67.3	320	11: Q89006	Q89006 mus musculu
33	35	67.3	320	11: Q9R2A2	Q9R2A2 mus musculu
34	35	67.3	325	11: Q89010	Q89010 mus musculu
35	35	67.3	330	11: Q8K3I5	Q8K3I5 mus musculu
36	35	67.3	330	11: Q9D2H4	Q9D2H4 mus musculu
37	35	67.3	330	11: Q8JZK8	Q8JZK8 mus musculu
38	35	67.3	330	11: Q60763	Q60763 mus musculu
39	35	67.3	330	11: Q60761	Q60761 mus musculu
40	35	67.3	330	11: Q99PF1	Q99PF1 mus sapien
41	35	67.3	346	4: Q8IZ00	Q8IZ00 homo sapien
42	35	67.3	355	16: Q7UMG9	Q7UMG9 rhodopirell
43	35	67.3	385	16: Q9A817	Q9A817 caulobacter
44	35	67.3	404	5: Q8ITS9	Q8ITS9 drosophila
45	35	67.3	430	16: Q8UBB0	Q8UBB0 agrobacteri

ALIGNMENTS

RESULT 1

Q7Z5K4 PRELIMINARY; PRT; 315 AA.
ID Q7Z5K4
AC Q7Z5K4;
DC 01-OCT-2003 (Tremblrel. 25, Created)
DT 01-OCT-2003 (Tremblrel. 25, Last sequence update)
DT 01-OCT-2003 (Tremblrel. 25, Last annotation update)
DE Melanoma antigen family A 9 (Fragment).
GN MAGEA9.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID:9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA Zhu J., Feng Z., Guan X.;
RT "MAGE-9 antigen (MAGE9) gene expressed in human hepatocellular
RT carcinoma patients.";
RL Submitted (MAY-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY10325; AAP82171.1; -.
FT NON TER 315
SQ SEQUENCE 315 AA; 35116 MW; C9488470D409B96F CRC64;

Query Match 82.7%; Score 43; DB 4; Length 315;

Best Local Similarity 77.8%; Pred. No. 5.4;

Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9

Db 167 EVDPAHSHY 175

RESULT 2

Q9BUN9 PRELIMINARY; PRT; 318 AA.

ID Q9BUN9

AC Q9BUN9;

DT 01-JUN-2001 (Tremblrel. 17, Created)

DT 01-JUN-2001 (Tremblrel. 17, Last sequence update)

DT 01-JUN-2003 (TReMBLrel. 24, Last annotation update)
 DE Skin antigen, family A, 8 (Melanoma antigen, family A, 8).
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 RN [1]_TaxID=9606;
 RP SEQUENCE FROM N.A.
 RC TISSUE=Skin;
 RA Strausberg R.;
 RL Submitted (AUG-2001) to the EMBL/GenBank/DBJ databases.
 RP [2]
 RP SEQUENCE FROM N.A.
 RA Kalaine N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S.,
 RA Koundinya M., Raphael J., Moreira D., Kelley T., LaBaer J., Lin Y.,
 RA Pheasant M., Farmer A.;
 RT "Cloning of human full-length cDNAs in BD Creator(TM) System Donor
 RT vector."
 RL Submitted (MAY-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; BC002455; AAH02455.1; -
 DR EMBL; BC012743; AAH12743.1; -
 DR EMBL; BT007340; AAP36004.1; -
 DR InterPro; IPR002190; MAGE.
 DR Pfam; PF01454; MAGE; 1.
 DR PROSITE; PS0838; MAGE; 1.
 SQ SEQUENCE 318 AA; 35214 MW; EA02C1FB42F6C080 CRC64;
 Query Match 82.7%; Score 43; DB 4; Length 318;
 Best Local Similarity 77.8%; Pred. No. 5.5;
 Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 171 EVDPAGHSY 179
 RESULT 3
 ID Q81WF3 PRELIMINARY; PRT; 259 AA.
 AC Q81WF3;
 DT 01-JUN-2003 (TReMBLrel. 24, Created)
 DT 01-JUN-2003 (TReMBLrel. 24, Last sequence update)
 DT 01-OCT-2003 (TReMBLrel. 25, Last annotation update)
 DE Dihydroorotate dehydrogenase, electron transfer subunit.
 GN PYROR OR BA024.
 OS Bacillus anthracis (strain Ames).
 OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
 OX NCBI_TaxID=198094;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=22608414; PubMed=1271629;
 RA Read T.D., Peterson S.N., Tourasse N., Baillie L.W., Paulsen I.T.,
 RA Nelson K.B., Tettelin H., Fouts D.E., Eisen J.A., Gill S.R.,
 RA Holtzapple E.K., Okstad O.A., Helgason E., Rillstone J., Wu M.,
 RA Kolonay J.F., Beanan M.J., Dodson R.J., Brinkac L.M., Gwinn M.,
 RA DeBoy R.T., Madupu R., Daugherty S.C., Durkin A.S., Haft D.H.,
 RA Nelson W.C., Peterson J.D., Pop M., Khouri H.M., Rague D.,
 RA Benton J.B., Mahamoud Y., Jiang L., Hance I.R., Weidman J.F.,
 RA Berry K.J., Plaut R.D., Wolf A.M., Watkins K.L., Nierman W.C.,
 RA Hazen A., Cline R., Redmond C., Thwaite J.E., White O., Salzberg S.L.,
 RA Thomson B., Friedlander A.M., Koehler T.M., Hanna P.C., Kolsto A.-B.,
 RA Fraser C.M.;
 RT "The genome sequence of Bacillus anthracis Ames and comparison to
 RT closely related bacteria."
 RL Nature 423:81-86 (2003).
 DR EMBL; AE017036; AAP27751.1; -
 DR TIGR; BA4024; -
 DR GO; GO:0016491; F:oxidoreductase activity; IEA.
 DR GO; GO:0006118; P:electron transport; IEA.
 DR InterPro; IPR001834; Cyt B5_reductase.
 DR InterPro; IPR008333; FAD_binding_6.
 DR InterPro; IPR00951; FAD_binding_6.
 DR Pfam; PF00970; FAD_binding_6; 1.
 RT "Genome sequence of Bacillus anthracis Ames and comparative analysis with
 RT Bacillus anthracis."
 RL Nature 423:87-91 (2003).
 DR EMBL; AE017010; AAP10806.1; -
 DR GO; GO:0016491; F:oxidoreductase activity; IEA.
 DR GO; GO:0006118; P:electron transport; IEA.
 DR InterPro; IPR001834; Cyt B5_reductase.
 DR InterPro; IPR008333; FAD_binding_6.
 DR InterPro; IPR00951; FAD_binding_6.
 DR Pfam; PF00970; FAD_binding_6; 1.
 DR PRINTS; PR00406; CYTB5RDTASE.
 DR PRINTS; PR00409; PHDIOXRDTASE.
 KW Oxidoreductase; Complete proteome.
 SQ SEQUENCE 259 AA; 28416 MW; D8F893A27E25919B CRC64;
 Query Match 76.9%; Score 40; DB 16; Length 259;
 Best Local Similarity 66.7%; Pred. No. 16;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 234 QEDPSGHSY 242
 RESULT 5
 ID Q9YDL2 PRELIMINARY; PRT; 129 AA.
 AC Q9YDL2;
 DT 01-NOV-1999 (TReMBLrel. 12, Created)
 DT 01-NOV-1999 (TReMBLrel. 12, Last sequence update)
 DT 01-JUN-2003 (TReMBLrel. 24, Last annotation update)
 DE Hypothetical protein APE0901.
 GN APE0901.
 OS Aeropyrum pernix.
 OC Archaea; Crenarchaeota; Thermoprotei; Desulfurococcales;
 OC Desulfurococcales; Aeropyrum.
 OX NCBI_TaxID=56636;
 RN [1]

DR PRINTS; PR00406; CYTB5RDTASE.
 DR PRINTS; PR00409; PHDIOXRDTASE.
 KW Complete proteome.
 SQ SEQUENCE 259 AA; 28439 MW; DC2768827E220805 CRC64;
 Query Match 76.9%; Score 40; DB 16; Length 259;
 Best Local Similarity 66.7%; Pred. No. 16;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 234 QEDPSGHSY 242
 RESULT 4
 ID Q819S4 PRELIMINARY; PRT; 259 AA.
 AC Q819S4;
 DT 01-JUN-2003 (TReMBLrel. 24, Created)
 DT 01-JUN-2003 (TReMBLrel. 24, Last sequence update)
 DT 01-OCT-2003 (TReMBLrel. 25, Last annotation update)
 DE Dihydroorotate dehydrogenase electron transfer subunit (BC
 DE 1.3.3.1).
 GN BC3885.
 OS Bacillus cereus (strain ATCC 14579 / DSM 31).
 OC Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
 OX NCBI_TaxID=228500;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=22608415; PubMed=12721630;
 RA Ivanova N., Sorokin A., Anderson I., Gallerton N., Candelon B.,
 RA Kapatral V., Bhattacharya A., Reznik G., Mikhailova N., Lapidus A.,
 RA Chu L., Mazur M., Goltsman E., Larsen N., D'Souza M., Walunas T.,
 RA Grechkin Y., Fusch G., Haseikorn R., Fonstein M., Ehrlich S.D.,
 RA Overbeek R., Kyriides N.;
 RT "Genome sequence of Bacillus cereus and comparative analysis with
 RT Bacillus anthracis."
 RL Nature 423:87-91 (2003).
 DR EMBL; AE017010; AAP10806.1; -
 DR GO; GO:0016491; F:oxidoreductase activity; IEA.
 DR GO; GO:0006118; P:electron transport; IEA.
 DR InterPro; IPR001834; Cyt B5_reductase.
 DR InterPro; IPR008333; FAD_binding_6.
 DR InterPro; IPR00951; FAD_binding_6.
 DR Pfam; PF00970; FAD_binding_6; 1.
 DR PRINTS; PR00406; CYTB5RDTASE.
 DR PRINTS; PR00409; PHDIOXRDTASE.
 KW Oxidoreductase; Complete proteome.
 SQ SEQUENCE 259 AA; 28416 MW; D8F893A27E25919B CRC64;
 Query Match 76.9%; Score 40; DB 16; Length 259;
 Best Local Similarity 66.7%; Pred. No. 16;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 234 QEDPSGHSY 242

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RP SEQUENCE FROM N.A.
RC STRAIN=KJ;
RC MEDLINE=99310339; PubMed=10382966;
RA Kavarabayasi Y., Hino Y., Horioka H., Yamazaki S., Haikawa Y.,
RA Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A., Kosugi H.,
RA Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa H.,
RA Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y.,
RA Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K.,
RA Nakamura Y., Nomura N., Sako Y., Kikuchi H.;
RT "Complete genome sequence of an aerobic hyper-thermophilic
RT crenarchaeon, Aeropyrum pernix K1.";
RL DNA Res. 6:83-101(1999).
DR EMBL; AP000060; BAA79885.1; -
DR PIR; E72685; E72685.
KW Hypothetical protein; Complete proteome.
SQ SEQUENCE 129 AA; 14303 MW; A0FF72C1EAB0D134 CRC64;

Query Match 73.1%; Score 38; DB 17; Length 129;
Best Local Similarity 85.7%; Pred. No. 18;
Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 3 DPTGHSY 9
|||
Db 115 DPAGHSY 121

RESULT 6
Q825J6 PRELIMINARY; PRT; 130 AA.
AC Q825J6;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Hypothetical protein.
GN SAV7461.
OS Streptomyces avermitilis.
OC Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
OC Streptomycineae; Streptomycetaceae; Streptomyces.
OX NCBI_TaxID=33903;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX MEDLINE=21477403; PubMed=11572948;
RA Omura S., Ikeda H., Ishikawa J., Hanamoto A., Takahashi C.,
RA Shincse M., Takahashi Y., Horioka H., Nakazawa H., Osonoe T.,
RA Kikuchi H., Shiba T., Sakaki Y., Hattori M.;
RT "Genome sequence of an industrial microorganism Streptomyces
RT avermitilis: deducing the ability of producing secondary
RT metabolites.";
RL Proc. Natl. Acad. Sci. U.S.A. 98:12215-12220(2001).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX MEDLINE=22608306; PubMed=12692562;
RA Ikeda H., Ishikawa J., Hanamoto A., Shinose M., Kikuchi H., Shiba T.,
RA Sakaki Y., Hattori M., Omura S.;
RT "Complete genome sequence and comparative analysis of the industrial
RT microorganism Streptomyces avermitilis.";
RL Nat. Biotechnol. 21:526-531(2003).
RL EMBL; AP005050; BAC75172.1; -
RW Hypothetical protein; Complete proteome.
SQ SEQUENCE 130 AA; 14204 MW; 0AE076FF77FEA58F CRC64;

Query Match 73.1%; Score 38; DB 16; Length 130;
Best Local Similarity 75.0%; Pred. No. 18;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 ADPTGHSY 9
|||
Db 110 ADPAGHSF 117

RESULT 7
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Q9HZX1 PRELIMINARY; PRT; 305 AA.
ID Q9HZX1;
AC Q9HZX1;
DT 01-MAR-2001 (TrEMBLrel. 16, Created)
DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Hypothetical protein PA2875.
GN PA2875.
OS Pseudomonas aeruginosa.
OC Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
OC Pseudomonadaceae; Pseudomonas.
OX NCBI_TaxID=287;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=ATCC 15692 / PAO1;
RC MEDLINE=20437337; PubMed=10984043;
RX Stover C.K., Pham X.-Q.T., Erwin A.L., Miziochuchi S.D., Warrenner P.,
RX Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M.,
RX Garber R.L., Gollery L., Tolentino E., Westbrock-Wadman S., Yuan Y.,
RX Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,
RX Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T.,
RX Reizer J., Sailer M.H., Hancock R.E.W., Lory S., Olson M.V.;
RT "Complete genome sequence of Pseudomonas aeruginosa PAO1, an
RT opportunistic pathogen.";
RL Nature 406:959-964(2000).
RL EMBL; AE004713; AAG06263.1; -
DR PIR; H83287; H83287.
KW Hypothetical protein; Complete proteome.
SQ SEQUENCE 305 AA; 32851 MW; 79351EBFA2704A61 CRC64;

Query Match 73.1%; Score 38; DB 16; Length 305;
Best Local Similarity 85.7%; Pred. No. 47;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGH 7
|||
Db 283 QADPTGH 289

RESULT 8
Q89L61 PRELIMINARY; PRT; 345 AA.
ID Q89L61;
AC Q89L61;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Aspartate-semialdehyde dehydrogenase.
GN ASD OR BLR4687.
OS Bradyrhizobium japonicum.
OC Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
OC Bradyrhizobiaceae; Bradyrhizobium.
OX NCBI_TaxID=375;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=USDA 110;
RC MEDLINE=22484998; PubMed=12597275;
RX Kaneko T., Nakamura Y., Sato S., Minamisawa K., Uchiumi T.,
RX Sasamoto S., Watanabe A., Idesawa K., Iriuchi M., Kawashima K.,
RX Kohara M., Matsumoto M., Shimpo S., Tsuruoka H., Wada T., Yamada M.,
RX Tabata S.;
RT "Complete genomic sequence of nitrogen-fixing symbiotic bacterium
RT Bradyrhizobium japonicum USDA110.";
RL DNA Res. 9:189-197(2002).
RL EMBL; AP005952; BAC49952.1; -
DR GO; GO:0006520; P:amino acid metabolism; IEA.
DR InterPro; IPR000534; Semialdh_dh.
DR Pfam; PF01118; Semialdehyde_dh; 1.
DR Pfam; PF02774; Semialdehyde_dhC; 1.
KW Complete proteome.
SQ SEQUENCE 345 AA; 37202 MW; 29B5FB6669BBD814 CRC64;

Query Match 71.2%; Score 37; DB 16; Length 345;
Best Local Similarity 85.7%; Pred. No. 83;
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Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 2 ADPTGHS 8
DB 308 SDPTGHS 314

RESULT 9
Q8BQ25 PRELIMINARY; PRT; 604 AA.
ID AC Q8BQ25;
DT 01-MAR-2003 (T-EMBLrel. 23, Created)
DT 01-MAR-2003 (T-EMBLrel. 23, Last sequence update)
DT 01-OCT-2003 (T-EMBLrel. 25, Last annotation update)
DE Integrin alpha 4 (Fragment).
GN ITC4.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Dracal root ganglion;
RX MEDLINE=22354683; PubMed=12466851;
RA The RIKEN Genome Exploration Research Group Phase I & II Team;
RA "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs.";
RL Nature 420:563-573 (2002).
DR EMBL; AK051876; BAC34715.1; -.
DR MGD; MGI:86603; ITC4.
DR GO; GO:0016477; P:cell migration; IMP.
DR GO; GO:0007507; P:heart development; IMP.
DR InterPro; IPR000413; Integrin_alpha.
DR Pfam; PF01839; FG-GAP; 3.
DR PRINTS; PR01185; INTEGRINA.
FT NON TER 604
SQ SEQUENCE 604 AA; 66598 MW; 5CB1D3C1A38C999 CRC64;

Query Match 71.2%; Score 37; DB 11; Length 604;
Best Local Similarity 100.0%; Pred. No. 1.5e+02;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 4 PTGHSY 9
DB 29 PTGHSY 34

RESULT 10
Q9NJ14 PRELIMINARY; PRT; 748 AA.
ID AC Q9NJ14;
DT 01-OCT-2000 (T-EMBLrel. 15, Created)
DT 01-OCT-2000 (T-EMBLrel. 15, Last sequence update)
DT 01-OCT-2003 (T-EMBLrel. 25, Last annotation update)
DE Peptidylglycine alpha-amidating monooxygenase (Fragment).
OS Aplysia californica (California sea hare).
OC Eukaryota; Metazoa; Mollusca; Gastropoda; Orthogastropoda;
OC Apogastropoda; Heterobranchia; Euthyneura; Opisthobranchia; Anaspidaea;
OC Aplysioidea; Aplysiidae; Aplysia.
OX NCBI_TaxID=6500;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=20499199; PubMed=11042355;
RA Fan X., Spilker S., Akalal D.B.G., Nagle G.T.;
RA "Neuropeptide amidation: cloning of a bifunctional alpha-amidating
RT enzyme from Aplysia.";
RL Brain Res. Mol. Brain Res. 82:25-34 (2000).
DR EMBL; AF140271; AAF67216.1; -.
DR HSP; P14925; IPHM.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005507; F:copper ion binding; IEA.
DR GO; GO:0004504; F:peptidylglycine monooxygenase activity; IEA.

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DR GO; GO:0005518; P:peptide metabolism; IEA.
DR InterPro; IPR000323; Cu2_monooxygenase.
DR InterPro; IPR001258; NHL.
DR InterPro; IPR000720; Pamoxigenase.
DR InterPro; IPR008977; PHM PNGase F.
DR Pfam; PF01082; Cu2_monooxygenase; I.
DR Pfam; PF03712; Cu2_monooxygenase; C.
DR Pfam; PF01436; NHL; 6.
DR PRINTS; PR00790; PAMOXIGENASE.
KW Monooxygenase.
FT NON TER 748
SQ SEQUENCE 748 AA; 82446 MW; D506B4C1E6068AAE CRC64;

Query Match 71.2%; Score 37; DB 5; Length 748;
Best Local Similarity 87.5%; Pred. No. 1.9e+02;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 EADPTGHS 8
DB 41 EADPTGHS 48

RESULT 11
Q825Y1 PRELIMINARY; PRT; 975 AA.
ID AC Q825Y1;
DT 01-JUN-2003 (T-EMBLrel. 24, Created)
DT 01-JUN-2003 (T-EMBLrel. 24, Last sequence update)
DT 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)
DE Hypothetical protein.
GN SAV7312.
OS Streptomyces avermitilis.
OC Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
OC Streptomycineae; Streptomycetaceae; Streptomyces.
OX NCBI_TaxID=33903;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=WA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX MEDLINE=21477403; PubMed=11572948;
RA Omura S., Ikeda H., Ishikawa J., Hanamoto A., Takahashi C.,
RA Shinose M., Takahashi Y., Horikawa H., Nakazawa H., Osonoe T.,
RA Kikuchi H., Shiba T., Sakaki Y., Hattori M.;
RA "Genome sequence of an industrial microorganism Streptomyces
RT avermitilis: deducing the ability of producing secondary
RT metabolites.";
RL Proc. Natl. Acad. Sci. U.S.A. 98:12215-12220 (2001).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=WA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX MEDLINE=22608306; PubMed=12692562;
RA Ikeda H., Ishikawa J., Hanamoto A., Shinose M., Kikuchi H., Shiba T.,
RA Sakaki Y., Hattori M., Omura S.;
RA "Complete genome sequence and comparative analysis of the industrial
RT microorganism Streptomyces avermitilis.";
RL Nat. Biotechnol. 21:526-531 (2003).
DR EMBL; AF005050; BAC75023.1; -.
DR Hypothetical protein; Complete proteome.
KW Hypothetical protein; Complete proteome.
SQ SEQUENCE 975 AA; 106606 MW; 131B96F87BF9D27C CRC64;

Query Match 71.2%; Score 37; DB 16; Length 975;
Best Local Similarity 75.0%; Pred. No. 2.6e+02;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EADPTGHS 8
DB 137 EADPTGHS 144

RESULT 12
Q61989 PRELIMINARY; PRT; 1032 AA.
ID AC Q61989;
DT 01-NOV-1996 (T-EMBLrel. 01, Created)

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RP SEQUENCE FROM N.A.
RC STRAIN=NA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX MEDLINE=22608306; PubMed=12692562;
RA Ikeda H., Ishikawa J., Hanamoto A., Shinose M., Kikuchi H., Shiba T.,
RA Sakaki Y., Hattori M., Omura S.;
RT "Complete genome sequence and comparative analysis of the industrial
RL microorganism Streptomyces avermitilis.";
RL Nat. Biotechnol. 21:526-531(2003).
DR EMBL; AF005029; BAC69909.1; -
KW Hypothetical protein; Complete proteome.
SQ SEQUENCE 208 AA; 22740 MW; 2F81808818B2A2BB CRC64;

Query Match 69.2%; Score 36; DB 16; Length 208;
Best Local Similarity 55.6%; Pred. No. 74;
Matches 5; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db .|||:::
189 DADPRGHAF 197

RESULT 15
Q88VG7 PRELIMINARY; PRT; 263 AA.
AC Q88VG7;
DT 01-JUN-2003 (TREMBLrel. 24, Created)
DT 01-JUN-2003 (TREMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
DE Short-chain dehydrogenase/oxidoreductase.
GN LP 2089.
OS Lactobacillus plantarum.
OC Bacteria; Firmicutes; Lactobacillales; Lactobacillaceae;
OC Lactobacillus.
OX NCBI_TaxID=1590;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=NCIMB 8826 / WCFS1;
RX MEDLINE=22480296; PubMed=12566566;
RA Kleerebezem M., Boekhorst J., van Kranenburg R., Molenaar D.,
RA Kuipers O.P., Leer R., Tarchini R., Peters S.A., Sandbrink H.M.,
RA Fiers M.W.E.J., Stiekema W., Klein Lankhorst R.M., Bron P.A.,
RA Hoffer S.M., Nierop Groot M.N., Kerkhoven R., De Vries M., Ursing B.,
RA De Vos W.M., Siezen R.J.;
RT "Complete genome sequence of Lactobacillus plantarum WCFS1.";
RL Proc. Natl. Acad. Sci. U.S.A. 100:1990-1995(2003).
DR EMBL; AL935258; CAD64455.1; -
DR GO; GO:0018491; Oxidoreductase activity; IEA.
DR GO; GO:0008152; P:metabolism; IEA.
DR InterPro; IPR002198; ADH_short.
DR Pfam; PF00106; adh_short; 1.
DR PRINTS; PR00080; SDRFAMILY.
DR PROSITE; PS00061; ADH_SHORT; 1.
KW Complete proteome.
SQ SEQUENCE 263 AA; 28240 MW; EAB0931DFA4E9AF9 CRC64;

Query Match 69.2%; Score 36; DB 16; Length 263;
Best Local Similarity 100.0%; Pred. No. 95;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 ADPTGH 7
Db |||||
197 ADPTGH 202

```

Search completed: April 5, 2004, 15:05:06
 Job time : 35.3333 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 6, 2004, 07:06:12 ; Search time 54 Seconds
(without alignments)
47.091 Million cell updates/sec

Title: US-09-766-889C-8

Perfect score: 52

Sequence: 1 EADPTGHSY 9

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 102

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 100%

Maximum Match 100%

Listing first 250 summaries

Database : A.Geneseq_29Jan04.*

1: Geneseqp1980s.*

2: Geneseqp1990s.*

3: Geneseqp2000s.*

4: Geneseqp2001s.*

5: Geneseqp2002s.*

6: Geneseqp2003as.*

7: Geneseqp2003bs.*

8: Geneseqp2004s.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	52	100.0	9	2	AAR29769 Antigen E
2	52	100.0	9	2	AAR63675 Synthetic
3	52	100.0	9	2	AAR50281 MAGE-1 no
4	52	100.0	9	2	AAY38303 MAGE-deri
5	52	100.0	9	2	AAR47330 HLA-A1 MA
6	52	100.0	9	2	AAR49224 HLA-A1 MA
7	52	100.0	9	2	AAR78824 MAGE-1 cy
8	52	100.0	9	2	AAR82988 P815 anti
9	52	100.0	9	2	AAR83932 MHC class
10	52	100.0	9	2	AAR65112 MAGE 1 im
11	52	100.0	9	2	AAR65135 MAGE 1 im
12	52	100.0	9	2	AAR75554 Melanoma
13	52	100.0	9	2	AAR99343 MAGE-1 no
14	52	100.0	9	2	AAR90692 Human leu
15	52	100.0	9	2	AAR00897 Human mel
16	52	100.0	9	2	AAW54622 Peptide f
17	52	100.0	9	2	AAW78838 MAGE-1 pr
18	52	100.0	9	2	AAW77125 GP75/TRP-
19	52	100.0	9	2	AAW68371 Human MAG
20	52	100.0	9	2	AAW5734 Peptidase
21	52	100.0	9	2	AAW5736 Peptidase
22	52	100.0	9	2	AAW02137 Peptide u
23	52	100.0	9	2	AAW56729 MAGE-1 an
24	52	100.0	9	2	AAW98945 HLA-A1 bi
25	52	100.0	9	2	AAY10424 HLA Class

26	52	100.0	9	2	AAAY10623
27	52	100.0	9	2	AAAY10633
28	52	100.0	9	2	AAAY40228 Amino aci
29	52	100.0	9	2	AAAY45884 Immunogen
30	52	100.0	9	2	AAAY46334 Immunogen
31	52	100.0	9	2	AAAY33147 Human MAG
32	52	100.0	9	2	AAAY25177 MAGE-1 pe
33	52	100.0	9	2	AAAY23250 Peptide d
34	52	100.0	9	2	AAAY53541 Human MAG
35	52	100.0	9	2	AAAY26884 Tumour-de
36	52	100.0	9	2	AAAY22126 Tumour re
37	52	100.0	9	2	AAAY00685 Tumour an
38	52	100.0	9	2	AAAY49637 Tumour an
39	52	100.0	9	2	AAAY01727 Exemplary
40	52	100.0	9	3	AAAY71494 Human MAG
41	52	100.0	9	3	AAAY90778 Human leu
42	52	100.0	9	3	AAAB13741 Peptide f
43	52	100.0	9	3	AAAY96509 MAGE-1 no
44	52	100.0	9	3	AAAB33650 MHC class
45	52	100.0	9	3	AAAB23659 Cytotoxic
46	52	100.0	9	3	AAAY92275 MAGE-Al a
47	52	100.0	9	3	AAAY56591 MAGE-1 ge
48	52	100.0	9	3	AAAY84270 Tumour as
49	52	100.0	9	3	AAAY82953 MAGE-1 tu
50	52	100.0	9	3	AAAB02596 Tumour as
51	52	100.0	9	3	AAAB08668 Antigenic
52	52	100.0	9	3	AAAB98899 Vaccine r
53	52	100.0	9	4	AAAE02085 MAGE-Al h
54	52	100.0	9	4	AAAG64446 Human tum
55	52	100.0	9	4	AAAB95896 MHC class
56	52	100.0	9	4	AAAG93746 Human mel
57	52	100.0	9	4	AAU72014 MAGE-1 pr
58	52	100.0	9	4	AAAB99968 Delayed t
59	52	100.0	9	4	AAAB31302 Exemplary
60	52	100.0	9	4	AAAB82203 HLA-A1 bi
61	52	100.0	9	4	AAAE06810 Human MAG
62	52	100.0	9	5	AAAE20396 Human mel
63	52	100.0	9	5	AAQ17093 Human mag
64	52	100.0	9	5	AAAM50608 Peptide f
65	52	100.0	9	5	AAE19080 HLA-A1 re
66	52	100.0	9	5	ABG66793 Tumour an
67	52	100.0	9	5	ABG80306 MHC class
68	52	100.0	9	5	ABG80107 MHC class
69	52	100.0	9	5	ABG80307 MHC class
70	52	100.0	9	5	ABG80315 MHC class
71	52	100.0	9	6	ABU96602 MHC class
72	52	100.0	9	6	ABR57344 MAGE-1 Al
73	52	100.0	9	6	ADAL9520 Human can
74	52	100.0	9	6	AAO23446 MAGE-1 de
75	52	100.0	10	2	AAW23038 MAGE-1/HL
76	52	100.0	10	2	AAAY46094 Immunogen
77	52	100.0	10	2	AAAY47254 Immunogen
78	52	100.0	10	4	AAE06811 Human MAG
79	52	100.0	10	4	AAE06814 Human MAG
80	52	100.0	10	4	AAE06852 Human MAG
81	52	100.0	11	2	AAAY46072 Immunogen
82	52	100.0	12	2	AAAE06807 Immunogen
83	52	100.0	12	2	AAAE06807 Human MAG
84	52	100.0	15	3	AAAY59636 MAGE-1 ep
85	52	100.0	23	4	AAE06813 Human MAG
86	52	100.0	30	5	AAU85034 Human MAG
87	52	100.0	47	5	AAU85034 Melanoma
88	52	100.0	81	6	ABP72588 Melanoma
89	52	100.0	81	6	ABP72587 Human mel
90	52	100.0	309	2	AAAB1548 Tumour re
91	52	100.0	309	4	AAAB1290 Amino aci
92	52	100.0	309	4	AAE06806 Human MAG
93	52	100.0	309	5	AAU84814 Human MAG
94	52	100.0	309	6	ABP74195 Human MAG
95	52	100.0	309	6	ABU08930 Human tum
96	52	100.0	309	7	ADC09573 MAGE-1 pr
97	52	100.0	310	6	AAO19742 Wild-type
98	52	100.0	310	6	AAO19742

99 52 100.0 445 2 AAY06592
 100 52 100.0 446 2 AAY06590
 101 52 100.0 1052 6 ABR57354
 102 52 100.0 3541 5 AAU85130

ALIGNMENTS

RESULT 1
 AAR29769
 ID AAR29769 standard; peptide; 9 AA.

AC AAR29769;

DT 25-MAR-2003 (revised)
 DT 22-APR-1993 (first entry)

DE Antigen E peptide.

KW Antigen; tumorigenic cell; A+ B+; T-cell; response; syngeneic; animal;
 KW mouse; tumour rejection antigen precursor; TRAP; PIA.

OS Homo sapiens.

PN WO9220356-A1.

PD 26-NOV-1992.

PF 22-MAY-1992; 92WO-US004354.

PR 23-MAY-1991; 91US-00705702.

PR 09-JUL-1991; 91US-00728838.

PR 23-SEP-1991; 91US-00764364.

PR 12-DEC-1991; 91US-00807043.

FA (LUDW-) LUDWIG INST CANCER RES.

PI Boon T, Van Der Bruggen P, Van Den Eynde B, Van Pel A, De Plaen E;
 PI Lurquin C, Chomez P, Traversari C;

DR WPI; 1992-415460/50.

XX Nucleic acid mol. encoding a human tumour rejection antigen precursor -
 XX useful as an immunostimulant in a vaccine for treating and preventing
 XX cancers, also useful in diagnosis.
 XX Disclosure; Page 97; 142pp; English.

CC This sequence represents the sequence of the antigen E. Antigens such as
 CC this one cause a T-cell response to be elicited which transplanted into a
 CC syngeneic animal, usually a mouse. This antigen is derived from the cell
 CC line MEL3.1. See also AAQ32351. (Updated on 25-MAR-2003 to correct PN
 CC field.)

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 DB |||||
 1 EADPTGHSY 9

RESULT 2

AAR63675

ID AAR63675 standard; protein; 9 AA.

XX AAR63675;

AC AAR63675;

DT 25-MAR-2003 (revised)

AAY06592 CLYTA-MAG
 AAY06590 Lipoprote
 ABR57354 MatDC16-C
 AAU85130 Human mel

DT 22-JUN-1995 (first entry)

XX Synthetic peptide derived from exon 3.1 of MAGE 1.

DE Melanoma antigen-1; MAGE-1; cytolytic T cells; antigen E; exon 3.1.

XX Synthetic.

XX WO9423031-A1.

PD 13-OCT-1994.

PF 17-MAR-1994; 94WO-US002877.

PR 26-MAR-1993; 93US-00037230.

PA (LUDW-) LUDWIG INST CANCER RES.

PI Gaugler B, Van Den Eynde B, Boon-Falleur T, Van Der Bruggen P;

XX WPI; 1994-333192/41.

XX New tumour rejection antigen precursor MAGE3 - useful in treatment and
 XX diagnosis of cancer.

PS Example 34; Page 36; 105pp; English.

CC AAR63675 is a synthetic peptide derived from exon 3.1 of melanoma antigen
 CC -1 (MAGE-1), it was used to transfer antigen-E cytolytic T lymphocyte
 CC sensitivity to normally non-sensitive cells. (Updated on 25-MAR-2003 to
 CC correct PN field.)

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 DB |||||
 1 EADPTGHSY 9

RESULT 3

AAR50281

ID AAR50281 standard; protein; 9 AA.

XX AAR50281;

DT 25-MAR-2003 (revised)

DT 26-SEP-1994 (first entry)

DE MAGE-1 nonapeptide.

XX MAGE; nonapeptide; cancer; melanoma; breast cancer; HLA;
 XX histocompatibility; human leucocyte antigen; probe; treatment; therapy;
 XX vaccine.

OS Synthetic.

XX WO9405304-A1.

PD 17-MAR-1994.

PF 30-AUG-1993; 93WO-US008157.

PR 31-AUG-1992; 92US-00938334.

PR 26-MAR-1993; 93US-00037230.

PR 07-JUN-1993; 93US-00073103.

PA (LUDW-) LUDWIG INST CANCER RES.

PI Boon-Falleur T, Van Der Bruggen P, De Plaen E, Lurquin C;

PI Traversari C;
 XX
 DR WPI; 1994-100844/12.
 DR N-PSDB; AAQ44751.
 XX
 PT New nona-peptide derived from tumour rejection antigen precursor -
 PT presented by HLA-A1 cancer cells, for use in diagnosis or therapy of esp.
 PT melanoma and breast cancer.
 XX
 PS Disclosure; Page 19; 33pp; English.
 XX
 CC An isolated nonapeptide having the amino acid sequence Glu-Val-Asp- Pro-
 CC Ile-Gly-His-Leu-Tyr is derived from the tumour rejection antigen
 CC precursor encoded by the MAGE-3 gene and presented by HLA-A1. The
 CC nonapeptide can be used in a vaccine to treat a cancerous condition
 CC involving HLA-A1 subtype cancerous cells. The nucleic acid encoding the
 CC nonapeptide can be used as a probe to identify tumour cells. This
 CC sequence is homologous to the peptide described and is encoded by the
 CC MAGE-1 gene. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 25
 CC -MAR-2003 to correct PI field.)
 XX
 SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. NO. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 DB 1 EADPTGHSY 9
 RESULT 4
 AAY38303
 ID AAY38303 standard; peptide; 9 AA.
 XX
 AC AAY38303;
 XX
 DT 29-SEP-1999 (first entry)
 XX
 DE MAGE-derived HLA-binding peptide.
 XX
 KW Immunogen; HLA; human leukocyte antigen; binding motif; antiviral; MHC;
 KW major histocompatibility complex; viral infection; anticancer;
 KW prostate cancer; lymphoma; hepatitis; AIDS; diagnostic; diagnosis.
 XX
 OS Homo sapiens.
 XX
 PN WO9403205-A1.
 XX
 PD 17-FEB-1994.
 XX
 PF 06-AUG-1993; 93WO-US007421.
 XX
 PR 07-AUG-1992; 92US-00926666.
 PR 05-MAR-1993; 93US-00027746.
 XX
 PA (CYTE-) CYTEL CORP.
 XX
 PI Kubo RT, Grey HM, Sette A, Celis E;
 XX
 DR WPI; 1994-065403/08.
 XX
 PT Peptide which specifically binds selected MHC allele - used to induce an
 PT immune response for treatment or prevention of viral infection or cancer,
 PT or for diagnosis.
 XX
 PS Disclosure; Page 112; 150pp; English.
 XX
 CC The sequence is a specific example of a group of new immunogenic peptides
 CC having an HLA-A3.2, HLA-A1, HLA-A11 or HLA-A24.1 binding motif. For
 CC example, the peptides having an HLA-A3.2 binding motif each have 9-10
 CC residues and contain, from the N-terminus to the C-terminus, (a) a first

conserved residue selected from L, M, I, V, S, A, T, F, C, G, D and E and
 (b) a second conserved residue of K, R, Y, H or F, where the first and
 second conserved residues are separated by 6-7 residues. The peptides are
 capable of binding selected MHC molecules and inducing an immune
 response. They can be used to treat and/or prevent viral infection and
 cancer, e.g. prostate cancer, lymphoma, hepatitis or AIDS. They can also
 be used to produce antibodies for use as diagnostic or therapeutic
 agents. The peptides can also be used as diagnostic agents
 XX
 SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. NO. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 DB 1 EADPTGHSY 9
 RESULT 5
 AAR47330
 ID AAR47330 standard; protein; 9 AA.
 XX
 AC AAR47330;
 XX
 DT 14-MAY-2003 (revised)
 DT 25-MAR-2003 (revised)
 DT 31-AUG-1994 (first entry)
 XX
 DE HLA-A1 MAGE 1 antigen peptide fragment 161-169.
 XX
 KW Immunogenic; HLA-A3.2; HLA-A1; HLA-A11; binding motif; MHC molecule;
 KW immune response; viral infection; cancer; prostate cancer; lymphoma;
 KW hepatitis; AIDS; antibody; diagnosis; melanoma antigen.
 XX
 OS Synthetic.
 XX
 PN WO9403205-A1.
 XX
 PD 17-FEB-1994.
 XX
 PF 06-AUG-1993; 93WO-US007421.
 XX
 PR 07-AUG-1992; 92US-00926666.
 PR 05-MAR-1993; 93US-00027746.
 XX
 PA (CYTE-) CYTEL CORP.
 XX
 PI Kubo RT, Grey HM, Sette A, Celis E;
 XX
 DR WPI; 1994-065403/08.
 XX
 PT Peptide which specifically binds selected MHC allele - used to induce an
 PT immune response for treatment or prevention of viral infection or cancer,
 PT or for diagnosis.
 XX
 PS Example 8; Page 52; 150pp; English.
 XX
 CC The sequences given in AAR47304-33 and AAR49201-44 are immunogenic
 CC peptides which have a HLA-A3.2, HLA-A1 or a HLA-A11 binding motif. These
 CC peptides may be used in the composition of the invention. These peptides
 CC are capable of binding selected MHC molecules and inducing an immune
 CC response. They can be used to treat and/or prevent viral infection and
 CC cancer, e.g. prostate cancer, lymphoma, hepatitis or AIDS. They can also
 CC be used to produce antibodies for use as diagnostic or therapeutic
 CC agents. The peptides can also be used as diagnostic agents. (Updated on
 CC 25-MAR-2003 to correct PN field.) (Updated on 14-MAY-2003 to correct PS
 CC field.)
 XX
 SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 2; Length 9;

```

Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 6
AAR49224
ID AAR49224 standard; protein; 9 AA.
AC AAR49224;
XX
XX
XX
XX
DT 14-MAY-2003 (revised)
DT 25-MAR-2003 (revised)
DT 31-AUG-1994 (first entry)
XX
XX
DE HLA-A1 MAGE 1 antigen peptide fragment 958.01.
XX
XX
KW Immunogenic; HLA-A3.2; HLA-A1; HLA-A11; binding motif; MHC molecule;
KW immune response; viral infection; cancer; prostate cancer; lymphoma;
KW hepatitis; AIDS; antibody; diagnosis; melanoma antigen.
XX
OS Synthetic.
XX
XX
PN WO9403205-A1.
XX
PD 17-FEB-1994.
XX
XX
PF 06-AUG-1993; 93WO-US007421.
XX
PR 07-AUG-1992; 92US-00926666.
PR 05-MAR-1993; 93US-00027746.
XX
XX
PA (CYTE-) CYTEL CORP.
XX
PI Kubo RT, Grey HM, Sette A, Celis E;
XX
XX
DR WPI; 1994-065403/08.
XX
XX
PT Peptide which specifically binds selected MHC allele - used to induce an
PT immune response for treatment or prevention of viral infection or cancer,
PT or for diagnosis.
XX
XX
PS Example 16; Page 116; 150pp; English.
XX
XX
CC The sequences given in AAR47304-33 and AAR49201-44 are immunogenic
CC peptides which have a HLA-A3.2, HLA-A1 or a HLA-A11 binding motif. These
CC peptides may be used in the composition of the invention. These peptides
CC are capable of binding selected MHC molecules and inducing an immune
CC response. They can be used to treat and/or prevent viral infection and
CC cancer, eg. prostate cancer, lymphoma, hepatitis or AIDS. They can also
CC be used to produce antibodies for use as diagnostic or therapeutic
CC agents. The peptides can also be used as diagnostic agents. (Updated on
CC 25-MAR-2003 to correct PN field.) (Updated on 14-MAY-2003 to correct PS
CC field.)
XX
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 7
AAR78824
ID AAR78824 standard; peptide; 9 AA.
XX
XX
AC AAR78824;
XX
XX
DT 26-MAR-1996 (first entry)
XX
XX
DE MAGE-1 cytotoxic T lymphocyte epitope.
XX
XX
KW MAGE-1; cytotoxic T; CTL; epitope; helper T; HTL; lymphocyte; cell;
KW viruses; parasites; tumours; antigens; disease prevention; treatment.
XX
XX
OS Homo sapiens.
XX
XX
PN WO9522317-A1.
XX
XX
PD 24-AUG-1995.
XX
XX
PF 16-FEB-1995; 95WO-US002121.
XX
XX
PR 16-FEB-1994; 94US-00197484.
XX
XX
PA (CYTE-) CYTEL CORP.
XX
PI Vitiello MA, Chesnut RW, Sette AD, Celis E, Grey H;
XX
XX
DR WPI; 1995-302545/39.
XX
XX
PT Compn. inducing cytotoxic T lymphocyte response to pref. viral,
PT bacterial, parasitic or tumour antigens - useful in the treatment and
PT prevention of diseases associated with the antigen e.g. hepatitis B.
XX
XX
PS Disclosure; Page 17; 109pp; English.
XX
XX
CC A compn. which induces a cytotoxic T lymphocyte (CTL) response to an
CC antigen (Ag) in a mammal comprises, a CTL Ag response inducing peptide
CC (i.e. AAR78824-R78853) and a lipid conjugated helper T cell inducing
CC peptide. The compn. induces a CTL response to bacterial, viral or tumour
CC Ags, and is therefore useful in the treatment and prevention of diseases
CC associated with the Ag
XX
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 8
AAR82988
ID AAR82988 standard; peptide; 9 AA.
XX
XX
AC AAR82988;
XX
XX
DT 25-MAR-2003 (revised)
DT 26-FEB-1996 (first entry)
XX
XX
DE P815 antigenic peptide.
XX
XX
KW P815 antigen; PIA antigen; cancer; vaccine.
XX
XX
OS Synthetic.
XX
XX
PN WO9523874-A1.
XX
XX
PD 08-SEP-1995.
XX
XX
PF 23-FEB-1995; 95WO-US002203.
XX
XX
PR 01-MAR-1994; 94US-00204727.
PR 10-MAR-1994; 94US-00209172.
PR 01-SEP-1994; 94US-00299849.

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PR 30-NOV-1994; 94US-00345774.
XX (LUDW-) LUDWIG INST CANCER RES.
PA
XX De Plaen E, Boon-Falleur T, Ietche B, Szkora J, De Smet C;
PI Chomez P, Gaugler B, Van Den Eynde B, Brasseur F, Patard J;
PI Weynants P, Marchand M, Van Der Bruggen P;
XX WPI; 1995-320586/41.
DR
XX Determ. of cancerous condition(s) - using a nucleic acid as a primer to
PT determine expression of a MAGE tumour rejection antigen precursor.
PT
XX Example 13; Page 22; 121pp; English.
XX
CC Using the sequence of the P815A antigen precursor gene p1A (AAT01176), an
CC antigenic peptide (AAR82988) which was A+B+ (i.e. characteristic of cells
CC which express both A and B antigens) was produced. The peptide lysed
CC PC.HTR cells in the presence of cytolytic T lymphocyte cell lines, and
CC may be useful as a vaccine component. (Updated on 25-MAR-2003 to correct
CC PI field.)
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 1 EADPTGHSY 9

RESULT 9
AAR83932
ID AAR83932 standard; peptide; 9 AA.
XX
AC AAR83932;
XX
DT 25-MAR-2003 (revised)
DT 06-OCT-1995 (first entry)
XX
XX MAGE 1 immunogenic peptide 161-169.
XX
XX MAGE 1; immunogenic peptide 161-169; cytotoxic C cells;
KW in vitro activation; cancer; AIDS; bacterial infections; malaria;
KW fungal infections; tuberculosis; hepatitis.
XX
XX Homo sapiens.
XX
XX WO9504817-A1.
XX
XX 16-FEB-1995.
XX
XX 01-AUG-1994; 94WO-US008672.
XX
XX 06-AUG-1993; 93US-00103401.
XX
XX (CYTE-) CYTEL CORP.
XX
XX Cellis E, Kubo R, Serra H, Tsai V, Wentworth P;
XX WPI; 1995-090895/12.
XX
XX In vitro activation of cytotoxic T cells for selected killing of target
XX cells - for treating e.g. cancer, AIDS, hepatitis etc. by incubating them
XX with antigen presenting cells loaded with appropriate immunogenic
XX peptide.
XX
XX Example 3; Page 35; 53pp; English.
XX
XX AAR65109-R65145 are immunogenic peptides, they are used in a new method
XX for the in vitro activation of cytotoxic T cells (CTC). This is achieved
XX by incubating the CTCs with antigen presenting cells loaded with an
XX appropriate immunogenic peptide (e.g. one of the above peptides). By
XX selecting the peptides used the following diseases and infections can be
XX treated; cancer, AIDS, hepatitis, other viral and bacterial infections,
XX malaria and tuberculosis. (Updated on 25-MAR-2003 to correct PN field.)
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 1 EADPTGHSY 9

RESULT 10
AAR65112
ID AAR65112 standard; peptide; 9 AA.
XX
XX AAR65112;
XX
XX 25-MAR-2003 (revised)
XX 06-OCT-1995 (first entry)
XX
XX MAGE 1 immunogenic peptide 161-169.
XX
XX MAGE 1; immunogenic peptide 161-169; cytotoxic C cells;
KW in vitro activation; cancer; AIDS; bacterial infections; malaria;
KW fungal infections; tuberculosis; hepatitis.
XX
XX Homo sapiens.
XX
XX WO9504817-A1.
XX
XX 16-FEB-1995.
XX
XX 01-AUG-1994; 94WO-US008672.
XX
XX 06-AUG-1993; 93US-00103401.
XX
XX (CYTE-) CYTEL CORP.
XX
XX Cellis E, Kubo R, Serra H, Tsai V, Wentworth P;
XX WPI; 1995-090895/12.
XX
XX In vitro activation of cytotoxic T cells for selected killing of target
XX cells - for treating e.g. cancer, AIDS, hepatitis etc. by incubating them
XX with antigen presenting cells loaded with appropriate immunogenic
XX peptide.
XX
XX Example 3; Page 35; 53pp; English.
XX
XX AAR65109-R65145 are immunogenic peptides, they are used in a new method
XX for the in vitro activation of cytotoxic T cells (CTC). This is achieved
XX by incubating the CTCs with antigen presenting cells loaded with an
XX appropriate immunogenic peptide (e.g. one of the above peptides). By
XX selecting the peptides used the following diseases and infections can be
XX treated; cancer, AIDS, hepatitis, other viral and bacterial infections,
XX malaria and tuberculosis. (Updated on 25-MAR-2003 to correct PN field.)
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 1 EADPTGHSY 9

PR 30-NOV-1994; 94US-00345774.
XX (LUDW-) LUDWIG INST CANCER RES.
PA
XX De Plaen E, Boon-Falleur T, Ietche B, Szkora J, De Smet C;
PI Chomez P, Gaugler B, Van Den Eynde B, Brasseur F, Patard J;
PI Weynants P, Marchand M, Van Der Bruggen P;
XX WPI; 1995-320586/41.
DR
XX Determ. of cancerous condition(s) - using a nucleic acid as a primer to
PT determine expression of a MAGE tumour rejection antigen precursor.
PT
XX Example 13; Page 22; 121pp; English.
XX
CC Using the sequence of the P815A antigen precursor gene p1A (AAT01176), an
CC antigenic peptide (AAR82988) which was A+B+ (i.e. characteristic of cells
CC which express both A and B antigens) was produced. The peptide lysed
CC PC.HTR cells in the presence of cytolytic T lymphocyte cell lines, and
CC may be useful as a vaccine component. (Updated on 25-MAR-2003 to correct
CC PI field.)
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 1 EADPTGHSY 9

RESULT 9
AAR83932
ID AAR83932 standard; peptide; 9 AA.
XX
AC AAR83932;
XX
DT 05-JUN-1996 (first entry)
XX
XX MHC class I restricted antigenic peptide #2.
XX
XX MHC class I; antigen; MAGE; melanoma; breast cancer; bladder cancer;
KW Titermax; cytotoxic T-lymphocyte; tumour; pathogenic disease; bacteria;
KW parasite; human; animal.
XX
XX Synthetic.
XX
XX WO9528958-A1.
XX
XX 02-NOV-1995.
XX
XX 21-APR-1995; 95WO-US004975.
XX
XX 22-APR-1994; 94US-00233496.
XX
XX (SLOK) SLOAN KETTERING INST CANCER RES.
PA
PI Nikolic-Zugic J, Dyall R;
XX WPI; 1995-382848/49.
XX
XX Cytotoxic T-cell induction by MHC class I-restricted peptide in adjuvant
XX - useful for treating tumours and bacterial or parasitic pathogenic
XX diseases.
XX
XX Claim 11; Page 38; 50pp; English.
XX
XX The sequences given in AAR83931-49 are MHC class I restricted 8-12 amino
XX acid antigenic peptides. This peptide is derived from MAGE and is present
XX in melanoma, breast and bladder cancer. These peptides may be
XX administered to a subject in combination with a suitable adjuvant, pref.

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RESULT 11
AAR65135
ID AAR65135 standard; peptide; 9 AA.
XX
XX AAR65135;
AC
XX
XX 25-MAR-2003 (revised)
DT 09-OCT-1995 (first entry)
DT
XX
XX MAGE 1 immunogenic peptide A01.
DE
XX
XX MAGE 1; immunogenic peptide A01; cytotoxic C cells; in vitro activation;
KW cancer; AIDS; bacterial infections; malaria; fungal infections;
KW tuberculosis; hepatitis.
XX
XX Homo sapiens.
OS
XX
XX WO9504817-A1.
FN
XX
XX 16-FEB-1995.
PD
XX
XX 01-AUG-1994; 94WO-US008672.
PF
XX
XX 06-AUG-1993; 93US-00103401.
PR
XX
XX (CYTE-) CYTEL CORP.
PA
XX
XX Celis E, Kubo R, Serra H, Tsai V, Wentworth P;
PI
XX
XX WPI; 1995-090895/12.
DR
XX
XX In vitro activation of cytotoxic T cells for selected killing of target
PT cells - for treating e.g. cancer, AIDS, hepatitis etc. by incubating them
PT with antigen presenting cells loaded with appropriate immunogenic
PT peptide.
XX
XX Example 3; Page 38; 53pp; English.
PS
XX
XX AAR65109-R65145 are immunogenic peptides, they are used in a new method
XX for the in vitro activation of cytotoxic T cells (CTC). This is achieved
XX by incubating the CTCs with antigen presenting cells loaded with an
XX appropriate immunogenic peptide (e.g. one of the above peptides). By
XX selecting the peptides used the following diseases and infections can be
XX treated; cancer, AIDS, hepatitis, other viral and bacterial infections,
XX malaria and tuberculosis. (Updated on 25-MAR-2003 to correct PN field.)
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9
RESULT 12
AAR75954
ID AAR75954 standard; peptide; 9 AA.
XX
XX AAR75954;
AC
XX
XX 06-MAR-1996 (first entry)
DT
XX
XX Melanoma antigen (MAGE-1) epitope.
DE
XX
XX MAGE-3; melanoma antigen; vaccine; immune response; immunogenic peptide;
KW cytotoxic T lymphocyte response; CTL; melanoma; breast cancer; antibody.
XX
XX Homo sapiens.
OS
XX
XX WO9519783-A1.
FN

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XX
XX 27-JUL-1995.
PD
XX
XX 25-JAN-1995; 95WO-US001000.
PF
XX
XX 25-JAN-1994; 94US-00186266.
PR
XX
XX (CYTE-) CYTEL CORP.
PA
XX
XX Kubo RT, Grey HM, Sette A, Celis E;
PI
XX
XX WPI; 1995-269270/35.
DR
XX
XX Immunogenic peptide(s) that induce immune response to cancer cells - that
PT express a MAGE-3 protein peptide epitope used in vaccines or adoptive
PT immuno:therapy to induce cytotoxic T lymphocytes.
XX
XX Example; Page 33; 44pp; English.
PS
XX
XX AAR75954 is derived from MAGE-1 protein. It was used to show the
XX specificity of CTL response to MAGE-3 peptides shown in AAR75942-53.
CC AAR75942 is derived from the sequence of the melanoma antigen (MAGE-3)
CC protein and can be used to elicit a primary cytotoxic T lymphocyte
CC response against cells expressing MAGE-3. Synthetic peptides AAR75945-53
CC can be used therapeutically to elicit CTL responses to melanoma, breast,
CC colon, prostate, or other cells which express proteins with this epitope.
CC The peptides have specific HLA-A1 binding capacity
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9
RESULT 13
AAR99343
ID AAR99343 standard; protein; 9 AA.
XX
XX AAR99343;
AC
XX
XX 22-APR-1997 (first entry)
DT
XX
XX MAGE-1 nonapeptide.
DE
XX
XX HLA binding peptide; cell lysis; cytolytic T cell; MAGE family; human;
KW tumour rejection antigen precursor; TRA; MAGE-1; tumour; cancer cell;
KW antibody; melanoma; universal effector cell; vaccine; breast cancer; CTL;
KW therapy.
XX
XX Homo sapiens.
OS
XX
XX WO9626214-A1.
FN
XX
XX 29-AUG-1996.
PD
XX
XX 01-FEB-1996; 96WO-US001489.
PF
XX
XX 23-FEB-1995; 95US-00393273.
PR
XX
XX (LUDW-) LUDWIG INST CANCER RES.
PA
XX
XX Boon-Falleur T, Van Der Bruggen P, De Plaen E, Lurquin C;
PI
XX
XX Gaugler B, Van Den Eynde B, Traversari C, Romero P;
XX
XX WPI; 1996-402317/40.
DR
XX
XX N-PSDB; AAT35408.
XX
XX New nona:peptide(s) that bind to HLA molecule(s) and induce lysis - by
PT

```


PT specific cytolytic T cells, for diagnosis and treatment of tumours and to
 XX expand T cells in vitro.

PS Example 4; Fig 4; 41pp; English.

XX AAR99343-R99350 represent MAGE nonapeptides, based on the tumour
 CC rejection antigen region of the full length MAGE sequences. These
 CC peptides were used to design the nonapeptides of the invention (see
 CC AAR99337-R99342), which bind to a HLA molecule on a cell, and provoke
 CC lysis by cytolytic T cells (CTLs) specific for a complex of the HLA
 CC molecule and nonapeptide. The nonapeptides can be used diagnostically to
 CC identify tumours expressing a particular HLA molecule, or to identify
 CC cancer cells. The peptides can also be used therapeutically, to induce a
 CC CTL response to tumours (where the peptides are optionally coupled to
 CC tumour-specific antibodies), or to induce a response by CTLs that are
 CC otherwise inactive. The peptide sequences may also be used to expand
 CC specific CTLs in vitro for later return to the patient, such as for
 CC treating melanoma. Tumour cells can be identified by using DNA encoding
 CC the nonapeptides as probes. Non-human cells transformed with the HLA-A1
 CC gene and a DNA sequence encoding one of the peptides, can be used to
 CC generate CTLs, or to detect the presence of CTLs in human samples. The
 CC non-human transformed cells, when polytransformed, are universal effector
 CC cells, and can be used in vaccines, or for treating melanoma or breast
 CC cancer.

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. NO. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 14

AAAR90692

ID AAR90692 standard; peptide; 9 AA.

AC AAR90692;

31-JUL-1996 (first entry)

XX Human leukocyte antigen (HLA-A1) presented peptide MZ2-E.

XX Human leukocyte antigen; HLA-A1; MAGE-1 derived; blood mononuclear cell;
 KW BMC; CD8-beta+ cell; cytolytic T cell; CTL cell; treatment; tumour cell;
 KW diagnosis; assay; presented peptide.

OS Synthetic.

XX WO9535500-A1.

XX 28-DEC-1995.

XX 14-JUN-1995; 95WO-US007559.

XX 17-JUN-1994; 94US-00261541.

XX (LUDW-) LUDWIG INST CANCER RES.

XX Coulie P, Van Der Bruggen P, Boon-Falleur T;

XX WPI; 1996-058510/06.

XX Prodn. of specific cytolytic T cell sub-populations - by contacting blood
 PT mononuclear cells with specific peptide(s) and a population of CD8-
 PT beta(+) cells.

PS Claim 5; Page 19; 25pp; English.

XX The present peptide is the human leukocyte antigen (HLA-A1), MAGE-1

CC derived presented peptide, MZ2-E. By contacting a sample of blood
 CC mononuclear cells (BMC) with the peptide (which binds directly to HLA-A1
 CC mols. on the surface of the BMC) and CD8-beta+ cells (which stimulate
 CC peptide/HLA-A1 complex specific CD8-beta+ cells), a peptide/HLA-A1
 CC complex specific cytolytic T (CTL) cell subpopulation can be obtd. . The
 CC CTL cells obtd. can be administered to a patient to treat tumour cell
 CC related conditions, and can be used in diagnostic methods, e.g. in assays
 CC for the peptide/HLA-A1 complex

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. NO. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 15

AAW00897

ID AAW00897 standard; peptide; 9 AA.

XX AAW00897;

XX 23-MAY-1997 (first entry)

XX Human melanoma MAGE1 tumour associated antigen p161-169.

XX Adeno-associated virus; vector; liposome; transfection; dendritic cell;
 KW melanoma; MAGE1; adoptive immunotherapy; tumour associated antigen.

XX Homo sapiens.

XX WO9703703-A1.

XX 06-FEB-1997.

XX 19-JUL-1996; 96WO-US012012.

XX 21-JUL-1995; 95US-0001312P.

XX 01-NOV-1995; 95US-0007184P.

XX 01-DEC-1995; 95US-00566286.

XX (RHON) RHONE POULENC RORER PHARM INC.

XX Philip R, Lebkowski JS;

XX WPI; 1997-145208/13.

XX Adeno-associated virus:liposome complexes for transfecting dendritic
 PT cells - for inducing immune response, useful for treating e.g. neoplasia
 PT or infections.

XX Example 5; Page 58; 134pp; English.

XX Tumour associated antigens (AAW13660-61, AAW00878-903) can be loaded into
 CC dendritic cells and used to induce antitumour immunity. Alternatively,
 CC the dendritic cells are transfected with adeno associated virus plasmid
 CC DNA (which includes DNA encoding the tumour associated antigen) complexed
 CC with cationic liposomes. The antigen loaded or transfected dendritic
 CC cells can be used to generate tumour antigen-specific cytotoxic T
 CC lymphocytes for use in adoptive immunotherapy in a patient having the
 CC corresponding tumour. A suitable antigen comprises amino acids 161-169
 CC (AAW00897) of human melanoma MAGE1

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. NO. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 16

AAW54622
 ID AAW54622 standard; peptide; 9 AA.

XX AC AAW54622;
 XX DT 25-SEP-1998 (first entry)

XX DE Peptide from Mage-1 161-169.

XX KW Mannose; antigen; antigen-presenting cell; mannosylated peptide; T cell;
 XX KW vaccine; treatment.
 XX OS Synthetic.

XX PN WO9813378-A1.

XX PD 02-APR-1998.

XX PF 25-SEP-1997; 97WO-NL000536.

XX PR 26-SEP-1996; 96EP-00202701.

XX PA (UYLE-) RIJKSUNIV LEIDEN.

XX PI Koning F, Drijfhout JW;

XX DR WPI; 1998-230631/20.

XX PT Increasing uptake and presentation of antigen(s) - by adding mannose
 PT residue(s) to antigen for increasing T cell response, useful in, e.g.
 PT vaccines against viral infection(s).

XX PS Disclosure; Page 28; 47pp; English.

XX CC The peptides AAW54559-W54809 are examples of peptides to which at least 1
 CC (preferably 2) mannose can be attached to increase their uptake as
 CC antigens by antigen-presenting cells. Uptake of agonist mannosylated
 CC peptides will increase the T cell response, whereas uptake of antagonist
 CC peptides blocks the T cell response. Blocking binding of immunogenic
 CC autoantigens can be used in treatment of type I diabetes, rheumatoid
 CC arthritis, graft rejection etc., also to induce T-cell non-
 CC responsiveness. Vaccines containing mannosylated antigen are used to
 CC prevent or treat infections by, e.g. bacteria, viruses, fungi, helminths
 CC and parasites

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 17

AAW78838
 ID AAW78838 standard; peptide; 9 AA.

XX AC AAW78838;

XX DT 17-NOV-1998 (first entry)

XX DE MAGE-1 protein fragment 161-169.

XX KW Microparticle; delivery; polymeric matrix; autoantigen; tumour antigen;

KW class II associated peptide; pathogen; gene therapy; genetic disease;
 XX infection; downregulation; immune response.

OS Homo sapiens.
 OS Synthetic.

XX PN WO9831398-A1.

XX PD 23-JUL-1998.

XX PF 22-JAN-1998; 98WO-US001499.

XX PR 22-JAN-1997; 97US-00787547.

XX PR 06-JAN-1998; 98US-00003253.

XX PA (PANG-) PANGAEA PHARM INC.

XX PI Hedley ML, Curley JM, Langer RS, Lunsford LB;

XX DR WPI; 1998-427556/36.

XX PT New preparations of microparticles - comprising a synthetic polymer
 PT matrix and nucleic acid comprising an expression vector for use in gene
 PT therapy.

XX PS Disclosure; Page 10; 101pp; English.

XX CC A microparticle preparation (MP) has been developed, consisting of
 CC microparticles having a diameter of less than 100 nm. The MP comprises:
 CC (a) a polymeric matrix (PM) consisting of one or more synthetic polymers
 CC having a solubility in water of less than 1 mg/l; and (b) an expression
 CC vector selected from RNA molecules (at least 50% of which are closed
 CC circles) or circular plasmid DNA (at least 50% of which are supercoiled).
 CC Also described is a MP of at most 20 microns in diameter, comprising: (a)
 CC a PM; and (b) a NAM comprising an expression control sequence operatively
 CC linked to a coding sequence, where the coding sequence encodes an
 CC expression product selected from: (i) a polypeptide at least 7 amino
 CC acids in length, having a sequence identical to the sequence of: (i) a
 CC fragment of a naturally-occurring mammalian protein; or (ii) a fragment
 CC of a naturally-occurring protein from an infectious agent which infects a
 CC mammal; (2) a peptide having a length and sequence which permits it to
 CC bind to an MHC class I or II molecule; and (3) the polypeptide or the
 CC peptide linked to a trafficking sequence. AAW69763 to AAW69765, and
 CC AAW78793 to AAW78897 are peptide fragments for use in the present
 CC invention. The MPs are highly effective vehicles for the delivery of
 CC polynucleotides into phagocytic cells. They can be used for gene therapy,
 CC e.g. for treating genetic diseases, infections or tumours or for
 CC downregulating an immune response

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 18

AAW77125
 ID AAW77125 standard; peptide; 9 AA.

XX AC AAW77125;

XX DT 16-NOV-1998 (first entry)

XX DE gp75/TRP-1 synthetic peptide epitope 1.

XX KW Tyrosinase; tyrosinase cytotoxic lymphocyte response;
 XX cytotoxic T lymphocyte; cysteine-depleted; melanoma.

```

OS Synthetic.
XX WO9833810-A2.
XX
XX 06-AUG-1998.
XX
XX 29-JAN-1998; 98WO-US001592.
XX
XX 30-JAN-1997; 97US-0037781P.
XX
XX (UYVI-) UNIV VIRGINIA PATENT FOUND.
XX
XX Slingluff CL, Hunt DF, Engelhard VH, Kitleson D;
XX WPI; 1998-437388/37.
XX
XX Disease specific immunogen - comprises disease specific cytotoxic T
XX lymphocyte epitope used to elicit melanoma specific CTL response.
XX
XX Disclosure; Page 27; 93pp; English.
XX
XX The peptide epitope AAW77119-W77138 were created for human tumour-
XX specific cytotoxic T lymphocyte response. These peptides are are cysteine
XX - depleted mutants of a native disease-specific CTL epitope. The cysteine
XX - depleted CTL epitopes elicit a stronger or more specific CTL response
XX than the native epitope. The epitopes can be used in a disease-specific
XX immunogen to protect a mammal against disease in particular melanomas.
XX The peptides may also be used to screen a sample for the presence of an
XX antigen with the same epitope, or with a different cross-reactive epitope
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. NO. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 19
AAW68371
ID AAW68371 standard; peptide; 9 AA.
XX
XX AAW68371;
XX
XX 25-MAR-2003 (revised)
XX 14-OCT-1998 (first entry)
XX
XX Human MAGE-1 peptide binds HLA-A1.
XX
XX Antigen; major histocompatibility complex; MHC; lymphocyte; detection;
XX immobilisation; cytotoxic T-cell; tumour; leukaemia; lymphoma;
XX viral infection.
XX
XX Synthetic.
XX Homo sapiens.
XX
XX WO9744667-A2.
XX
XX 27-NOV-1997.
XX
XX 21-MAY-1997; 97WO-FR000892.
XX
XX 21-MAY-1996; 96US-00651925.
XX
XX (INSP ) INST PASTEUR.
XX (INRM ) INSERM INST NAT SANTE & RECH MEDICALE.
XX
XX Langladedemoyen P, Lone Y, Kourilsky P, Abastado J;
XX WPI; 1998-018653/02.
XX

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```

XX Detection, purification and elimination of antigen-specific lymphocytes -
XX for producing cytotoxic T cells for immuno-therapy of cancers and viral
XX infection.
XX
XX Disclosure; Page 30; 222pp; French.
XX
XX Peptides AAW68301-W68384 are examples of antigens (Ag) which can be
XX loaded onto recombinantly produced major histocompatibility complex (MHC)
XX molecules in a method of detecting antigen-specific lymphocytes. The MHC-
XX antigen complex is then immobilised on a solid support and a sample
XX containing cells recognising the MHC-Ag complex may be isolated. This
XX peptide is derived from the human MAGE-1 protein and binds the human
XX leukocyte antigen A1 (HLA-A1). A similar method is used to isolate,
XX purify or eliminate Ag-specific T-cells or to produce Ag-specific
XX cytotoxic T-cells (CTC). The method is also used to detect and quantify
XX tumour-specific T-cells and to generate CTC for specific killing of
XX tumour cells (solid tumours, leukaemia or lymphoma) by injection into a
XX human or animal, but also for treating viral infections. (Updated on 25-
XX MAR-2003 to correct PI field.)
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. NO. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 20
AAW75734
ID AAW75734 standard; peptide; 9 AA.
XX
XX AAW75734;
XX
XX 19-NOV-1998 (first entry)
XX
XX Peptidase-resistant peptide 2.
XX
XX Tumour antigen MZ2-E; T-cell; immunotherapy; cytolytic T-cell; CTL;
XX therapeutic agent; peptidase; MZ2-E antigen peptide analogue; HLA;
XX human leucocyte antigen; MHC; lysis; vaccine.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
XX Misc-difference 2 /note= "D-form residue"
XX FT
XX Misc-difference 8 /note= "D-form residue"
XX FT
XX WO9833511-A1.
XX
XX 06-AUG-1998.
XX
XX 19-NOV-1997; 97WO-US021296.
XX
XX 05-FEB-1997; 97US-00795733.
XX
XX (LUDW-) LUDWIG INST CANCER RES.
XX (CNRS ) CENT NAT RECH SCI.
XX
XX Ayoub M, Monsarrat B, Mazarguil H, Van Den Eynde B, Gairin JE;
XX WPI; 1998-437166/37.
XX
XX Peptidase-resistant peptide(s) that bind to HLA molecules and related
XX antibodies - particularly for treatment of cancer by inducing
XX proliferation of cytotoxic T cells.
XX

```

PS Claim 20; Page 20; 32pp; English.

XX Sequences AAW75733-W75736 are peptidase-resistant peptides which are

CC analogues of the tumour antigen M22-E. This antigen is a potential target

CC for T-cell based immunotherapy and can also be used to stimulate the

CC antigen-specific CTL, however its use as a therapeutic agent is limited

CC due to its degradation by peptidase. The M22-E antigen peptide analogues

CC were modified at both peptidase sensitive portions, and were all shown to

CC exhibit a longer half-life relative to peptidase degradation as well as

CC the ability to bind a human leucocyte antigen (HLA). The specific

CC peptides AAW75733 and AAW75735 were established to have a comparable

CC affinity for the MHC as the tumour antigen, and AAW75735 was found to be

CC the ideal peptide analog to use due to it also being able to sensitize

CC the target cells to lysis by effector molecules at similar concentrations

CC to those of the antigen M22-E. These peptide analogues can be used in

CC vaccines to induce an immune response for treating conditions in which

CC abnormal HLA/peptide complexes are present on the surface of cells

XX Sequence 9 AA;

SQ

Query Match 100.0%; Score 52; DB 2; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 21

AAW75736

ID AAW75736 standard; peptide; 9 AA.

XX AC AAW75736;

XX 19-NOV-1998 (first entry)

XX Peptidase-resistant peptide 4.

XX Tumour antigen M22-E; T-cell; immunotherapy; cytolytic T-cell; CTL;

XX therapeutic agent; peptidase; M22-E antigen peptide analogue; HLA;

XX human leucocyte antigen; MHC; lysis, vaccine.

XX Synthetic.

XX Key Location/Qualifiers

FT Modified-site 2

FT Modified-site 8 /note= "N-Methyl-Alanine"

FT Modified-site 8 /note= "N-Methyl-Serine"

PN WO9833511-A1.

XX 06-AUG-1998.

XX 19-NOV-1997; 97WO-US021296.

XX 05-FEB-1997; 97US-00795733.

XX (LUDW-) LUDWIG INST CANCER RES.

PA (CNRS) CENT NAT RECH SCI.

XX Ayyoub M, Monsarrat B, Mazarguil H, Van Den Bynde B, Gairin JB;

XX WPI; 1998-437166/37.

XX Peptidase-resistant peptide(s) that bind to HLA molecules and related

PT antibodies - particularly for treatment of cancer by inducing

PT proliferation of cytotoxic T cells.

XX Claim 20; Page 20; 32pp; English.

XX Sequences AAW75733-W75736 are peptidase-resistant peptides which are

CC analogues of the tumour antigen M22-E. This antigen is a potential target

CC for T-cell based immunotherapy and can also be used to stimulate the

CC antigen-specific CTL, however its use as a therapeutic agent is limited

CC due to its degradation by peptidase. The M22-E antigen peptide analogues

CC were modified at both peptidase sensitive portions, and were all shown to

CC exhibit a longer half-life relative to peptidase degradation as well as

CC the ability to bind a human leucocyte antigen (HLA). The specific

CC peptides AAW75733 and AAW75735 were established to have a comparable

CC affinity for the MHC as the tumour antigen, and AAW75735 was found to be

CC the ideal peptide analog to use due to it also being able to sensitize

CC the target cells to lysis by effector molecules at similar concentrations

CC to those of the antigen M22-E. These peptide analogues can be used in

CC vaccines to induce an immune response for treating conditions in which

CC abnormal HLA/peptide complexes are present on the surface of cells

XX Sequence 9 AA;

SQ

Query Match 100.0%; Score 52; DB 2; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 22

AAW75736

ID AAW75736 standard; peptide; 9 AA.

XX AC AAW75736;

XX 07-JUL-1999 (first entry)

XX Peptide used to produce compounds that cross-link receptors.

XX Cross-link; homobivalent; heterobivalent; antagonist; agonist; receptor;

XX lymphocyte; haematopoietic cell; activation; proliferation; human CD26;

XX CD26; HIV; neoplasm; chemotherapy; radiation therapy;

XX immune system cell depletion; kidney failure; bone marrow deficiency;

XX immunodeficiency.

XX Synthetic.

XX WO9800439-A2.

XX 08-JAN-1998.

XX 27-JUN-1997; 97WO-US011279.

XX 28-JUN-1996; 96US-00671756.

XX 11-APR-1997; 97US-00837305.

XX (TUFT) TUFTS COLLEGE.

XX Bachovchin WM;

XX WPI; 1998-110200/10.

XX New multi-valent compounds for crosslinking receptors - used for treating

PT auto-immune conditions.

XX Disclosure; Page 103; 141pp; English.

XX The specification describes synthetic cross-linking homobivalent and

CC heterobivalent compounds. These compounds are low in molecular weight,

CC have antagonistic or agonistic activity, and induce the association

CC between two natural receptors. The compounds are contacted (preferably ex

CC vivo) with lymphocytes or haematopoietic cells to stimulate activation or

CC proliferation of human CD26-bearing lymphocytes or CD26-bearing

CC haematopoietic cells in humans suffering from disease states

CC characterised by inadequate lymphocyte activation or concentration e.g.

CC HIV; a neoplasm (where the CD26-bearing lymphocytes are cytolytic or

CC helper T-cells); the side-effects of chemotherapy or radiation therapy, resulting in depletion of immune system cells derived from lymphoid, erythroid and myeloid lineages; kidney failure resulting in depletion of immune cells; bone marrow deficiency resulting in immunodeficiency; or immunodeficiency symptoms resulting from depletion of immune cells. The present sequence is used in the production of the compounds of the invention

XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
| | | | | | | | |
DB 1 EADPTGHSY 9

RESULT 23
AAW56729
ID AAW56729 standard; peptide; 9 AA.
XX
AC AAW56729;
XX
DT 31-JUL-1998 (first entry)
XX
DE MAGE-1 antigenic partial peptide sequence (residues 161-169).
XX
KW MAGE; replication defective; adenovirus; tumour; antigen; cancer;
KW immunotherapy; tumour rejection antigen precursor; TRAP; CTL;
KW human leukocyte antigen; HLA; cytolytic T lymphocyte.
XX
OS Synthetic.
XX
FN WO9815638-A2.
XX
PD 16-APR-1998.
XX
PF 06-OCT-1997; 97WO-US017948.
XX
PR 06-OCT-1996; 96US-0027891P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Reed DS, Romero P, Rimoldi D, Cerrottini J, Jongeneel CV;
XX WPI; 1998-240824/21.
XX
PT New replication-defective adenoviruses - comprise insert encoding tumour rejection antigen precursor(s), useful for, e.g. cancer immuno-therapy.
XX
PS Example; Page 42; 56pp; English.
XX
CC This is a partial sequence of the MAGE-1 antigenic peptide used in the methods of the invention. The specification provides a new nucleic acid molecule comprising a replication-defective adenovirus genome containing an insert encoding a tumour rejection antigen precursor (TRAP). The replication-defective adenovirus genome is useful as a vector for introducing a TRAP molecule into mammalian (especially human) cells. The recombinant adenovirus is preferably targeted to tumour cells, e.g. by binding a ligand to the virus coat. The TRAP peptides which are generated from the expressed TRAP are presented by human leukocyte antigen (HLA) molecules and as a result cytolytic T lymphocyte (CTL) production is increased (claimed). The CTL's then kill the TRAP-expressing tumour cells. Also, cells transfected by the recombinant adenovirus can be used for assessing the processing of TRAPs, including post-translational modifications. The adenovirus (genome) can be administered by injection, topical application or intracavitarily in 106-1010 pfu doses. The range of TRAP peptides produced by replication-defective adenovirus means that patients with a range of HLA phenotypes can be treated. Also, host cell immune response to TRAP's is enhanced, e.g. by induction of tumour-specific cytolytic T lymphocytes

XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
| | | | | | | | |
DB 1 EADPTGHSY 9

RESULT 24
AAW98945
ID AAW98945 standard; peptide; 9 AA.
XX
AC AAW98945;
XX
DT 06-MAY-1999 (first entry)
XX
DE HLA-A1 binding peptide derived from MAGE-1.
XX
KW Human leukocyte antigen; HLA; HLA-A2 binding peptide; T cell;
KW cytolytic T cell; CTL.
XX
OS Synthetic.
XX Homo sapiens.
XX WO9858951-A1.
XX
PD 30-DEC-1998.
XX
PF 18-JUN-1998; 98WO-US012879.
XX
PR 23-JUN-1997; 97US-00880963.
PR 16-APR-1998; 98US-00061388.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Valmeri D, Cerrottini J, Romero P;
XX WPI; 1999-105609/09.
XX
PT New decamer peptides which bind to HLA molecules - useful to identify HLA -A2 positive cells and provoke T cells.
XX
PS Example 7; Page 18; 45pp; English.
XX
CC The present invention describes peptides which bind to an HLA-A2 molecule and have Val at the carboxy terminus, and either: (a) Ala, Tyr or Phe at the amino terminus, and Ala at position 2 (PI); or (b) Glu at the amino terminus, and Ala, Leu, or Met at positions 2 and 3, with the proviso that Ala is not at both positions (P2). The peptides of the present invention are used to identify HLA-A2 positive cells, provoke T cells, and determine the presence of particular T cells including cytolytic T cells (CTLs). They provide a better target than the prior art CTL-stimulating peptide. The present sequence represents a peptide used in an example from the present invention

XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
| | | | | | | | |
DB 1 EADPTGHSY 9

RESULT 25
AAAY10424
ID AAY10424 standard; peptide; 9 AA.

XX AAY10424;
 AC
 XX DT 12-MAY-1999 (first entry)
 XX
 DE HLA Class I motif peptide SEQ ID NO:354.
 XX
 XX Cytotoxic T-lymphocyte response; CTL; antigen; lymphatic system;
 KW immunisation; tumour; infectious disease; immunotherapy; cancer;
 KW malignant melanoma; viral disease; hepatitis; AIDS.
 XX
 OS Synthetic.
 OS Homo sapiens.
 XX
 XX WO9902183-A2.
 FN
 XX PD 21-JAN-1999.
 XX
 PF 10-JUL-1998; 98WO-US014289.
 XX
 XX 10-JUL-1997; 97CA-02209815.
 PR
 XX 10-DEC-1997; 97US-00988320.
 XX
 PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
 XX
 PI Kuendig TM, Simard JJL;
 XX
 DR WPI; 1999-120514/10.
 XX
 XX Inducing a cytotoxic T lymphocyte response - by maintaining a level of
 PT antigen in the lymphatic system of a mammal so as to provide a sustained
 PT CTL response, used to treat, e.g. AIDS.
 XX
 PS Disclosure; Page 39; 199pp; English.
 XX
 CC The present invention describes a method of inducing and/or sustaining an
 CC immunological cytotoxic T lymphocyte (CTL) response in a mammal. The
 CC method comprises: (a) delivering an antigen to the mammal at a level to
 CC induce an immunological CTL response in the mammal; and (b) maintaining
 CC the level of the antigen in the mammal's lymphatic system to maintain the
 CC immunologic CTL response. The method can be used for the delivery of e.g.
 CC embryonic antigen, an oncogene antigen, a mutated tumour-suppressor gene
 CC antigen, or a viral antigen. They can be used for the treatment of
 CC disease such as cancer, e.g. malignant melanoma or infectious disease,
 CC to the lymphatic system provides for potent CTL stimulation that takes
 CC place in the milieu of the lymphoid organ, and it sustains stimulation
 CC that is necessary to keep CTL active, cytotoxic and recirculating through
 CC the body. AAY10071 to AAY10639 represent examples of peptide antigens
 CC given in the present invention
 XX
 SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e-06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9
 RESULT 26
 AAY10623
 ID AAY10623 standard; peptide; 9 AA.
 AC AAY10623;
 XX
 XX DT 12-MAY-1999 (first entry)
 XX
 DE Peptide antigen SEQ ID NO:553.
 XX

KW Cytotoxic T-lymphocyte response; CTL; antigen; lymphatic system;
 KW immunisation; tumour; infectious disease; immunotherapy; cancer;
 KW malignant melanoma; viral disease; hepatitis; AIDS.
 XX
 OS Synthetic.
 OS Homo sapiens.
 XX
 XX WO9902183-A2.
 FN
 XX PD 21-JAN-1999.
 XX
 PF 10-JUL-1998; 98WO-US014289.
 XX
 XX 10-JUL-1997; 97CA-02209815.
 PR
 XX 10-DEC-1997; 97US-00988320.
 XX
 PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
 XX
 PI Kuendig TM, Simard JJL;
 XX
 DR WPI; 1999-120514/10.
 XX
 XX Inducing a cytotoxic T lymphocyte response - by maintaining a level of
 PT antigen in the lymphatic system of a mammal so as to provide a sustained
 PT CTL response, used to treat, e.g. AIDS.
 XX
 PS Disclosure; Page 51; 199pp; English.
 XX
 CC The present invention describes a method of inducing and/or sustaining an
 CC immunological cytotoxic T lymphocyte (CTL) response in a mammal. The
 CC method comprises: (a) delivering an antigen to the mammal at a level to
 CC induce an immunological CTL response in the mammal; and (b) maintaining
 CC the level of the antigen in the mammal's lymphatic system to maintain the
 CC immunologic CTL response. The method can be used for the delivery of e.g.
 CC embryonic antigen, an oncogene antigen, a mutated tumour-suppressor gene
 CC antigen, or a viral antigen. They can be used for the treatment of
 CC disease such as cancer, e.g. malignant melanoma or infectious disease,
 CC to the lymphatic system provides for potent CTL stimulation that takes
 CC place in the milieu of the lymphoid organ, and it sustains stimulation
 CC that is necessary to keep CTL active, cytotoxic and recirculating through
 CC the body. AAY10071 to AAY10639 represent examples of peptide antigens
 CC given in the present invention
 XX
 SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e-06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9
 RESULT 27
 AAY10633
 ID AAY10633 standard; peptide; 9 AA.
 AC AAY10633;
 XX
 XX DT 12-MAY-1999 (first entry)
 XX
 DE Peptide antigen SEQ ID NO:563.
 XX
 XX Cytotoxic T-lymphocyte response; CTL; antigen; lymphatic system;
 KW immunisation; tumour; infectious disease; immunotherapy; cancer;
 KW malignant melanoma; viral disease; hepatitis; AIDS.
 XX
 OS Synthetic.
 OS Homo sapiens.
 XX

PI Sette A, Kubo RT, Sidney J, Celis E, Grey HM, Southwood S;
 XX WPI; 1999-551214/46.
 XX

PT New immunogenic peptides with HLA binding motif, useful in treatment and
 PT diagnosis of cancers and viral diseases.
 XX

PS Claim 1; Page 46; 150pp; English.

XX AAY45390 to AAY48214 represent specifically claimed immunogenic peptides
 CC having a human major histocompatibility complex (MHC) Class I (also known
 CC as human leukocyte antigen (HLA)) binding motif. The immunogenic peptides
 CC can bind to a specific HLA allele (i.e. HLA-A subtypes HLA-A2.1, A1, A3.2
 CC or A24.1 or HLA-B or C) and induce a cytotoxic T cell response against
 CC the antigen from which the peptide is derived. Cytotoxic T lymphocytes
 CC (CTLs) which destroy antigen-bearing cells are normally induced by an
 CC antigen in the form of a peptide fragment bound to a HLA molecule, rather
 CC than the intact foreign antigen itself, and are particularly important in
 CC tumour rejection and in fighting viral infections. The peptides are
 CC therefore useful therapeutically to treat or prevent viral infections and
 CC cancers in mammals (especially humans) e.g. prostate cancer, hepatitis B
 CC and C, AIDS, and renal carcinoma. They can be administered as vaccines to
 CC elicit an immune response in individuals susceptible or otherwise at risk
 CC of viral infection or cancer, or used to treat chronic or acute
 CC conditions. They are also useful diagnostically, and can be used to
 CC induce a cytotoxic T cell response, by contacting a cytotoxic T cell with
 CC the peptide e.g. to produce CTLs ex vivo for infusion back into a
 CC patient. The polynucleotides encoding the immunogenic peptides are also
 CC useful therapeutically and for immunisation as above
 XX

SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e-06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 DB 1 EADPTGHSY 9

RESULT 30
 AAY46334
 ID AAY46334 standard; peptide; 9 AA.

AC AAY46334;

DT 01-DEC-1999 (first entry)

DE Immunogenic peptide having a human leukocyte antigen binding motif #945.

XX Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA;
 XX immune response; T cell activation; major histocompatibility complex;
 XX cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer;
 XX prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
 XX vaccine; immunisation.

OS Synthetic.

OS Homo sapiens.

PN WO9945954-A1.

XX 16-SEP-1999.

XX 13-MAR-1998; 98WO-US005039.

XX 13-MAR-1998; 98WO-US005039.

XX (EPIM-) EPIMMUNE INC.

PI Sette A, Kubo RT, Sidney J, Celis E, Grey HM, Southwood S;
 XX WPI; 1999-551214/46.
 XX

XX

PT New immunogenic peptides with HLA binding motif, useful in treatment and
 PT diagnosis of cancers and viral diseases.

PS Claim 1; Page 67; 150pp; English.

XX AAY45390 to AAY48214 represent specifically claimed immunogenic peptides
 CC having a human major histocompatibility complex (MHC) Class I (also known
 CC as human leukocyte antigen (HLA)) binding motif. The immunogenic peptides
 CC can bind to a specific HLA allele (i.e. HLA-A subtypes HLA-A2.1, A1, A3.2
 CC or A24.1 or HLA-B or C) and induce a cytotoxic T cell response against
 CC the antigen from which the peptide is derived. Cytotoxic T lymphocytes
 CC (CTLs) which destroy antigen-bearing cells are normally induced by an
 CC antigen in the form of a peptide fragment bound to a HLA molecule, rather
 CC than the intact foreign antigen itself, and are particularly important in
 CC tumour rejection and in fighting viral infections. The peptides are
 CC therefore useful therapeutically to treat or prevent viral infections and
 CC cancers in mammals (especially humans) e.g. prostate cancer, hepatitis B
 CC and C, AIDS, and renal carcinoma. They can be administered as vaccines to
 CC elicit an immune response in individuals susceptible or otherwise at risk
 CC of viral infection or cancer, or used to treat chronic or acute
 CC conditions. They are also useful diagnostically, and can be used to
 CC induce a cytotoxic T cell response, by contacting a cytotoxic T cell with
 CC the peptide e.g. to produce CTLs ex vivo for infusion back into a
 CC patient. The polynucleotides encoding the immunogenic peptides are also
 CC useful therapeutically and for immunisation as above
 XX

SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e-06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 DB 1 EADPTGHSY 9

RESULT 31
 AAY33147
 ID AAY33147 standard; peptide; 9 AA.

AC AAY33147;

DT 17-NOV-1999 (first entry)

DE Human MAGE-1 peptide.

XX Human; protein delivery; Yersinia sp; effector gene; mutant; antigen;
 XX immune response; cytotoxic T-lymphocyte; CTL; vaccination; treatment;
 XX pathological disorder; MAGE-1.

OS Homo sapiens.

PN WO9945098-A2.

XX 10-SEP-1999.

XX 03-MAR-1999; 99WO-IB000587.

XX 06-MAR-1998; 98US-00036582.

XX (VERU/) VAN DER BRUGGEN P B.

XX (CORN/) CORNELIS G R.

XX (BOLA/) BOLAND A M.

XX (BOON/) BOON-FALLEUR T R.

PI Van Der Bruggen PB, Cornelis GR, Boland AM, Boon-Falleur TR;

XX WPI; 1999-540840/45.

XX New mutant Yersinia strains useful for treating a pathological disorder.

PS Example 1; Page 61; 80pp; English.

XX This invention describes a novel mutant Yersinia (Y1) strain, comprising
CC mutation(s) in effector-encoding gene(s) and deficient in the production
CC of functional effector protein(s). The invention describes (1) a
CC quintuple mutant Yersinia strain, having the designation Yersinia
CC enterocolitica yopHOMP or Yersinia pseudotuberculosis yopHRAOJ; (2) an
CC expression vector (EV1) for delivering a heterologous protein into a
CC eukaryotic cell, comprising in the 5'-3' direction: (3) a Yersinia or
CC mutant Yersinia strain for delivering a heterologous protein into a
CC eukaryotic cell, comprising contacting the cell with a Y1 transformed
CC cell with the above vector (Y1-EV1); (4) a method for delivering a
CC heterologous protein into a eukaryotic cell, comprising contacting the
CC cell with a Y1 transformed with the above vector (Y1-EV1); (5) a method
CC for inducing an immune response specific for a heterologous protein; (6)
CC a method for inducing a cytotoxic T-lymphocyte (CTL) response specific
CC for a heterologous protein; (7) a method for determining the efficacy of
CC an antigen vaccination regimen in a subject. Y1 is used to treat a
CC pathological disorder, by providing recombinant Yersinia for the safe
CC delivery of proteins into eukaryotic cells. AAY3147-Y33178 are human-
CC derived peptides used to illustrate the method of the invention

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 1 EADPTGHSY 9
| | | | | | | | |

RESULT 32

AAY25177
ID AAY25177 standard; peptide; 9 AA.

XX AAY25177;

XX 03-SEP-1999 (first entry)

XX MAGE-1 peptide.

XX Heat shock protein; HSP; complex; denatured protein matrix; antigen;
KW vaccine; allergic disease; treatment; susceptibility; Th2; skin rash;
KW allergic reaction; asthma; MAGE-1.

XX Unidentified.

XX WO9929182-A1.

XX 17-JUN-1999.

XX 04-DEC-1998; 98WO-US025734.

XX 05-DEC-1997; 97US-00985548.

XX 05-DEC-1997; 97US-00986234.

XX (UNNE-) UNIV NEW MEXICO STATE.

XX Wallen ES, Moseley PL;

XX WPI; 1999-394912/33.

XX Synthesizing heat shock protein complexes using a denatured protein
PT matrix.

PS Example 1; Fig 1A; 33pp; English.

XX This invention describes a novel method for synthesizing heat shock
CC protein (HSP) complexes comprising adding a heat shock protein to a
CC denatured protein matrix for binding, and adding a complexing solution
CC comprising a peptide to elute a heat shock protein-peptide complex. A HSP

CC -antigen complex is useful as a vaccine for treating an allergic disease
CC (in a mammal, preferably a human) to reduce susceptibility of the Th2
CC response, the complex comprising a HSP-antigenic peptide complex. The
CC complex is administered to prevent a mammal from having an allergic
CC reaction to an allergic disease, or administered to a mammal having an
CC allergic disease, to reduce the allergic reactions. Allergic diseases
CC include asthma and skin rashes. Prior art methods or preventing/treating
CC allergic diseases include antihistamines which treat only the symptoms,
CC corticosteroids which have severe side effects and desensitization
CC therapy which has limited uses. The new method also allows more
CC flexibility of use of peptide-based vaccines, as prior art HSP-based
CC vaccines require isolation from a portion of the tumour itself. This
CC sequence represents a MAGE 1 peptide fragment used in the method of the
CC invention

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
Db 1 EADPTGHSY 9
| | | | | | | | |

RESULT 33

AAY23250
ID AAY23250 standard; peptide; 9 AA.

XX AAY23250;

XX 31-AUG-1999 (first entry)

XX Peptide derived from MAGE-1 which is recognised by cytotoxic T cells.

XX Venezuelan equine encephalitis virus; VEE virus; neoplastic disease;

XX tumour-associated antigen; cytokine; immunity; cancer; tumour; MAGE-1.

XX Homo sapiens.

XX WO9930734-A1.

XX 24-JUN-1999.

XX 14-DEC-1998; 98WO-US025725.

XX 18-DEC-1997; 97US-0068080P.

XX (SEAR) SEARLE & CO G D.

XX Hippenmeyer PJ;

XX WPI; 1999-395093/33.

XX Using new Venezuelan equine encephalitis virus vectors.

XX Claim 4; Page 24; 40pp; English.

XX The specification describes Venezuelan equine encephalitis (VEE) virus
CC vectors which can be used to express tumour-associated antigens and
CC cytokines, and thus induce immunity to cancer. The VEE virus vectors of
CC the invention can be used prevent, treat, and protect against primary and
CC metastatic neoplastic diseases, especially tumours such as lung cancer,
CC breast cancer, ovarian cancer, prostate cancer, pancreatic cancer,
CC gastric cancer, colon cancer, renal cancer, bladder cancer, melanoma,
CC hepatoma, sarcoma and lymphoma. The present sequence represents a MAGE-1
CC derived peptide, which can be expressed using the VEE vectors of the
CC invention

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
| | | | |
DB 1 EADPTGHSY 9

RESULT 34

AAV53541
ID AAV53541 standard; protein; 9 AA.

XX AAV53541;

AC 18-JAN-2000 (first entry)

DE Human MAGE-1 protein (aa 161-169) binds HLA-A1.

XX Lipopeptide; epitope; cytotoxic T lymphocyte; CTL; lipid; spacer; p53;
KW electrical charge; hydrophilicity; vaccine; immune response; HIV; HBV;
KW human immunodeficiency virus; hepatitis B virus; papilloma virus;
KW melanoma; malaria; parasite.

XX Synthetic.

OS Homo sapiens.

XX FR2776926-A1.

PN 08-OCT-1999.

PD 07-APR-1998; 98FR-00004323.

PF 07-APR-1998; 98FR-00004323.

XX (INRM) INSERM INST NAT SANTE & RECH MEDICALE.

PA (CNRS) CNRS CENT NAT RECH SCI.

PA (INSP) INST PASTEUR LILLE.

XX Le Gal FA, Guillet JG, Gahery SH, Gras MH, Melnyk O, Tartar A;

PI WPI; 1999-583113/50.

XX New lipopeptide containing lipid regions and two epitopes, all separated

XX by peptide spacers that impart hydrophilicity, useful in vaccines.

XX Disclosure; Page 26; 35pp; French.

XX The invention relates to the generation of a lipopeptide comprising at

XX least one auxiliary T epitope, at least one cytotoxic T lymphocyte (CTL)

XX epitope and at least one lipid residue with (i) the epitopes and lipid

XX portion and (ii) the epitopes, being separated independently by peptide

XX spacers. These spacers comprise sequences of amino acids which carry an

XX overall electrical charge in neutral media to ensure that the lipopeptide

XX is hydrophilic. The peptides AAV53301-Y53549 represents examples of

XX peptide epitopes used to generate the lipopeptides. These are used in

XX therapeutic or prophylactic compositions and vaccines to induce specific

XX immune responses against human immunodeficiency, hepatitis B or papilloma

XX viruses; p53 of melanoma or the malaria parasite

XX Sequence 9 AA;

QY Match 100.0%; Score 52; DB 2; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9

| | | | |

DB 1 EADPTGHSY 9

XX AAV53541 standard; peptide; 9 AA.

XX AAV26884

XX AAV26884 standard; peptide; 9 AA.

XX AAV26884

XX AAV26884 standard; peptide; 9 AA.

XX AAV26884

XX AAV26884 standard; peptide; 9 AA.

XX AAV26884

XX AAV26884 standard; peptide; 9 AA.

XX AAV26884

XX AAV26884 standard; peptide; 9 AA.

XX AAV26884

XX AAV26884 standard; peptide; 9 AA.

XX

AC

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DT

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DE

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XX

KW

KW

KW

XX

OS

OS

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PN

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PD

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PF

XX

PR

XX

PA

PA

PA

XX

PI

PI

XX

DR

XX

PT

PT

XX

PS

XX

CC

CC

CC

CC

CC

CC

CC

CC

CC

CC

CC

CC

XX

SQ

Sequence 9 AA;

QY Match

100.0%; Score 52; DB 2; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9

| | | | |

DB 1 EADPTGHSY 9

XX

XX

XX

XX

XX

XX

XX

PN US925729-A.
 XX
 PD 20-JUL-1999.
 XX
 PF 02-MAY-1994; 94US-00142368.
 XX
 PR 23-MAY-1991; 91US-00705702.
 PR 09-JUL-1991; 91US-00728838.
 PR 23-SEP-1991; 91US-00764365.
 PR 12-DEC-1991; 91US-00807043.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 XX
 PI Van Der Bruggen P, Traversari C, Lurquin C, Boon T, De Plaen E;
 PI Van Pel A, Chomez P, Van Den Eynde B;
 XX
 DR WPI; 1999-418294/35.
 XX
 PT New tumour rejection antigen is useful as a vaccine against cancerous
 PT diseases.
 XX
 PS Claim 1; Col 85; 58pp; English.
 XX
 CC This sequence represents the tumour rejection antigen of the invention.
 CC The tumour rejection antigen sequence is useful as a tumour rejection
 CC antigen for vaccination against cancerous conditions
 CC
 XX SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 EADPTGHSY 9
 DB |||||
 1 EADPTGHSY 9
 RESULT 37
 AAY00685
 ID AAY00685 standard; peptide; 9 AA.
 AC AAY00685;
 XX
 DT 12-MAY-1999 (first entry)
 XX
 DE Tumour antigen booster peptide MAGE-1 HLA-A1.
 XX
 KW Tumour antigen; booster peptide; immune response modulation; allergy;
 KW immune response enhancer; tumour cell; tumour rejection antigen;
 KW leukocyte antigen-presenting molecule; autoimmune disease;
 KW allograft rejection.
 XX
 OS Homo sapiens.
 XX
 PN WO9858956-A2.
 XX
 PD 30-DEC-1998.
 XX
 PF 19-JUN-1998; 98WO-US012894.
 XX
 PR 23-JUN-1997; 97US-00860979.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 XX
 PI Warnier G, Uyttenhove C, Boon-Palleur T;
 XX
 DR WPI; 1999-105612/09.
 XX
 PT Immunization methods using viruses expressing antigen for priming and
 PT booster immunizations - useful for modulating immune responses against
 PT antigen, e.g. enhancing immune response against tumour cells expressing
 PT tumour rejection antigens.

XX Claim 3; Page 9; 33pp; English.
 XX
 CC This sequence represents a tumour antigen booster peptide that can be
 CC used in the method of the invention. The method is for modulating an
 CC immune response in a mammal against an antigen, and comprises: (A)
 CC inducing an immune response by: (i) administering a virus containing a
 CC nucleic acid molecule encoding the antigen or its precursor to generate
 CC an immune response; and (ii) administering at least one booster dose
 CC comprising a peptide including the antigen, in an adjuvant, in a combined
 CC amount effective to enhance the initial immune response; or (B) reducing
 CC an immune response as defined for (A) but using a non-adjuvant with the
 CC peptide which includes the antigen, in an amount effective to reduce the
 CC initial immune response. Method (A) is used to enhance the immune
 CC response against tumour cells expressing tumour rejection antigens, and
 CC against pathogens in subjects having human leukocyte antigen-presenting
 CC molecules. Method (B) is used to reduce the immune response in allergy,
 CC autoimmune disease, and allograft rejection. Method (A) provides an
 CC immunisation method which, unlike prior art, is not limited by the host
 CC immune response against viral vectors
 XX
 SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 EADPTGHSY 9
 DB |||||
 1 EADPTGHSY 9
 RESULT 38
 AAY49637
 ID AAY49637 standard; peptide; 9 AA.
 XX
 AC AAY49637;
 XX
 DT 14-JAN-2000 (first entry)
 XX
 DE Tumour antigenic peptide SEQ ID NO:4.
 XX
 KW Human; sdph3.10; SAGE; sd3.8; HAGE; sd3.5; TRAP; sarcoma;
 KW tumour rejection antigen precursor; tumour associated nucleic acid;
 KW carcinoma; cancer; immune response; diagnosis.
 XX
 OS Synthetic.
 XX
 PN WO9953061-A2.
 XX
 PD 21-OCT-1999.
 XX
 PF 14-APR-1999; 99WO-US008163.
 XX
 PR 15-APR-1998; 98US-00060706.
 PR 27-JUL-1998; 98US-00122989.
 PR 30-OCT-1998; 98US-00183706.
 PR 30-OCT-1998; 98US-00183789.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 XX
 PI Martelange V, De Smet C, Boon-Palleur T;
 XX
 DR WPI; 1999-620430/53.
 XX
 PT New nucleic acid encoding sarcoma-associated gene products, useful for
 PT diagnosing, e.g. treating and preventing cancer.
 XX
 PS Disclosure; Page 24; 93pp; English.
 XX
 CC The present invention describes sarcoma-associated gene products (I).
 CC Agents, specifically sarcoma associated nucleic acids (II) or their
 CC expression products that are tumour rejection antigens (TRA), that

CC selectively increase formation of HLA (human leucocyte antigen)/(I)
 CC complexes are used for treating cancer, especially sarcoma and carcinoma,
 CC in humans and other animals. Compositions containing autologous cytolytic
 CC T cells (CTL), specific for the HLA/II complex, are similarly useful,
 CC also transformed cells that stimulate such CTL in vivo. (II) are also
 CC used: (i) as source of therapeutic antisense sequences that reduce
 CC expression of (II); (ii) for recombinant production of (I); (iii)
 CC particularly its fragments, as primers and probes in usual hybridisation
 CC and amplification assays, for diagnosis, prognosis and monitoring of
 CC tumours, or for measuring binding specificity of HLA molecules or CTL
 CC clones; (iv) to identify related sequences; and (v) for generating
 CC transgenic animals, e.g. for studying cancer and immune responses to it.
 CC (I) are used to raise specific antibodies (Ab) and therapeutically. Ab
 CC are used to diagnose tumours in immunoassays, also for delivering drugs,
 CC toxins, imaging agents etc. to (I)-expressing cells. AAY49637 to AAY49670
 CC represent exemplary tumour antigenic peptides given in the present
 CC invention
 CC
 XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 39
 AAY01727
 ID AAY01727 standard; peptide; 9 AA.
 AC AAY01727;
 XX
 XX 25-JUN-1999 (first entry)
 DE Exemplary antigenic peptide derived from MAGE-1.
 XX
 XX MAGE-3; tumour associated gene; human leucocyte antigen Class II;
 XX autologous CD4+ cell; MAGE-3 related disease; cancer; melanoma;
 XX osteosarcoma; leukemia; carcinoma.
 XX
 XX Homo sapiens.
 XX
 XX WO9914326-A1.
 XX
 XX 25-MAR-1999.
 XX
 XX 04-SEP-1998; 98WO-US018501.
 XX
 XX 12-SEP-1997; 97US-00928615.
 XX
 XX (LUDW-) LUDWIG INST CANCER RES.
 XX (UUVR-) UNIV VRIJE BRUSSEL.

XX Thielemans K, Heirman C, Corthals J, Chaux P, Stroobant V;
 XX Boon-Falleur T, Van Der Bruggen P, Luiten R;
 XX WPI; 1999-244031/20.
 XX
 XX Isolated peptides that bind to human leucocyte antigen class II
 XX molecules.
 XX
 XX Disclosure; Page 27; 88pp; English.

XX The present sequence represents an exemplary tumour associated peptide
 CC antigen. The specification describes a MAGE-3 tumour associated gene.
 CC Peptides (AAY01721-25) that bind human leucocyte antigen (HLA) class II
 CC molecules can be derived from the MAGE-3 protein. These peptides and
 CC autologous CD4+ cells that bind to a complex of MAGE-3 peptide and HLA
 CC Class II, are used to treat MAGE-3 related diseases, particularly cancers
 CC (e.g. melanoma, osteosarcoma, leukemia and various forms of carcinoma).

CC The peptides are also used to produce specific antibodies. Detection of
 CC of the peptides, e.g. in binding assays, particularly with antibodies, is
 CC used for diagnosis of such diseases
 XX
 XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 40
 AAY71494
 ID AAY71494 standard; peptide; 9 AA.

AC AAY71494;
 XX
 XX 12-OCT-2000 (first entry)
 DE Human MAGE-1 nonapeptide-1.
 XX
 XX MAGE-1; human; Tumour Rejection Antigen; TRA; Human Leucocyte Antigen;
 XX HLA; Major Histocompatibility Complex; MHC; cytolytic T-lymphocyte; CTL;
 XX immune response stimulator; prophylaxis; therapy; diagnosis; tumour;
 XX cancer; TNF; tumour necrosis factor; vaccine; cytostatic.
 XX
 XX Homo sapiens.
 XX
 XX WO200032769-A2.
 XX
 XX 08-JUN-2000.
 XX
 XX 26-NOV-1999; 99WO-IB002018.
 XX
 XX 27-NOV-1998; 98GB-00026143.
 XX (LUDW-) LUDWIG INST CANCER RES.
 XX
 XX Huang L, Van Pel A, Brasseur F, De Plaen E, Boon T;
 XX WPI; 2000-412317/35.
 XX
 XX Novel polypeptides expressed in tumor cells useful for treating cancers
 XX have an ability to complex with a major histocompatibility complex
 XX molecule and comprises a specific unbroken amino acid sequence.
 XX
 XX Disclosure; Page 19; 80pp; English.

XX The patent discloses MAGE-A10 and MAGE-A8 polypeptide, nonapeptide and
 CC decapeptide sequences, that function as tumour rejection antigens (TRAs).
 CC These peptides are capable of forming a complex with major
 CC histocompatibility complex (MHC) molecule type HLA-A2.1 (Human Leucocyte
 CC Antigen), that are recognised by T-lymphocytes and elicit an immune
 CC response from cytolytic T-lymphocytes (CTL). They function as an immune
 CC response stimulator. Tumour rejection antigens are useful in prophylaxis,
 CC therapy and diagnosis of tumours and are effective in controlling or
 CC preventing tumour growth. The present sequence is the human MAGE-1
 CC nonapeptide-1, that corresponds to residues 161-169 of the tumour
 CC associated gene, MAGE-1 encoding protein. It can be administered to
 CC induce or enhance an immune response and is presented by HLA-A1 complex.
 CC This peptide can serve as a tumour rejection antigen (TRA) and in
 CC combination with adjuvants, can produce vaccines useful for treating a
 CC variety of tumours
 XX
 XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 41
AA190778
ID AAY90778 standard; peptide; 9 AA.
XX
AC AAY90778;
XX
XX 25-AUG-2000 (first entry)
DT XX
DE Human leukocyte antigen A1 MAGE-1 peptide SEQ ID NO:7.
XX
XX Human leukocyte antigen; HLA-B35; binding; recognition; lysis;
KW cytolytic T cell; tyrosinase; immune response; diagnosis; identification;
KW human.
XX
XX Homo sapiens.
OS
XX W0200021551-A1.
PN
XX
PD 20-APR-2000.
XX
XX 04-OCT-1999; 99WO-US023038.
PF
XX 09-OCT-1998; 98US-00169717.
PR
XX (LUDW-) LUDWIG INST CANCER RES.
PA
XX
XX Ooms A, De Giovanni G, Morel S, Van Den Eynde B, Boon-Failleur T;
PI
XX WPI; 2000-317842/27.
DR
XX Isolated peptides, sometimes derived from tyrosinase, which bind to HLA-
PT B35 leading to recognition and lysis of the resulting complexes by
PT cytolytic T cells.
XX
XX Example 3; Page 9; 20pp; English.
PS
XX The present invention describes isolated peptides which bind to human
CC leukocyte antigen (HLA)-B35 molecules leading to recognition and lysis of
CC the resulting complexes by cytolytic T cells. The isolated peptides are
CC sometimes derived from tyrosinase. Compositions comprising the peptides
CC of the invention can be used to generate immune responses, preferably in
CC humans, but also in non-human animals to generate immune components
CC which can then be used to treat humans or diagnostically.
CC Therapeutically, the peptides are useful in generation of cytolytic T
CC cells either in vitro or in vivo which specifically lyse pathogenic
CC cells. The peptides can also be used to identify HLA-B35 positive cells,
CC or to remove HLA-B35 positive cells from mixtures containing such cells.
CC Nucleic acid molecules encoding the peptides can be used inter alia as
CC probes to identify cells which are expressing tyrosinase. The present
CC sequence represents an HLA binding peptide used in the exemplification of
CC the present invention
XX
XX Sequence 9 AA;
SQ

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 42
AAB13741
ID AAB13741 standard; peptide; 9 AA.
XX

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 43
AAY96509
ID AAY96509 standard; peptide; 9 AA.
XX
XX AAY96509;
AC
XX
XX 12-SEP-2000 (first entry)
DT
XX MAGE-1 nonapeptide.
DE

AAB13741;
AC
XX 02-FEB-2001 (first entry)
DT
XX Peptide fragment # 1 from human MAGE-1.
DE
XX
XX Human; T-cell; immune response; antigen; epitope; B7 family molecule;
KW Leukocyte function-associated antigen-3; LFA-3;
KW Intercellular adhesion molecule-1; ICAM-1; vaccine; immunotherapy;
KW colon polyp; Crohn's disease; ulcerative colitis; breast lesion; tumour;
KW MAGE-1.
XX
XX Homo sapiens.
OS
XX W0200034494-A1.
PN
XX 15-JUN-2000.
PD
XX 12-NOV-1999; 99WO-US026866.
PF
XX 09-DEC-1998; 99US-0111582P.
PR
XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
PA (THER-) THERION BIOLOGICS CORP.
PA
XX Schlom J, Hodge J, Panicali D;
PI
XX WPI; 2000-431307/37.
DR
XX Novel recombinant vector useful as immunogens and vaccines for
PT stimulating and enhancing immunological responses to target cells and
PT antigens expresses multiple co-stimulatory molecules such as B7-1, LFA-3,
PT ICAM-1.
XX
XX Claim 18; Page 35; 188pp; English.
PS
XX Costimulatory molecules have important roles in T-cell activation and
CC therefore the immune response. The present invention relates to
CC recombinant vectors which comprise of foreign nucleic acid sequences
CC encoding at least three costimulatory molecules: a B7 family molecule,
CC Leukocyte function-associated antigen-3 (LFA-3, human CD58) and
CC Intercellular adhesion molecule-1 (ICAM-1, CD54) and optionally a foreign
CC gene encoding a target antigen or immunological epitope. The present
CC sequence is one such target antigen used in the present invention. The
CC present invention is a tumour-associated antigen. The vector of the
CC present invention would be useful for providing an enhanced immune
CC response to the present target antigen. The vector of the present
CC invention may therefore be useful in immunotherapy for treating or
CC preventing diseases caused by viruses, bacteria, protozoans, parasites,
CC premalignant cells and tumour cells. The recombinant vector can be used
CC to treat or prevent preneoplastic or hyperplastic states such as colon
CC polyps, Crohn's disease, ulcerative colitis and breast lesions
XX
XX Sequence 9 AA;
SQ

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9

RESULT 43
AAY96509
ID AAY96509 standard; peptide; 9 AA.
XX
XX AAY96509;
AC
XX
XX 12-SEP-2000 (first entry)
DT
XX MAGE-1 nonapeptide.
DE

XX KW human leukocyte antigen, HLA-A1; melanoma; neoplastic; MAGS-1; TCR; MHC;
 KW soluble; major histocompatibility complex; antigen; T cell receptor;
 KW lymphocyte; tumour; cytostatic; anti-microbial; immunosuppressive.
 XX OS Homo sapiens.
 XX PN WO200031239-A1.
 XX PD 02-JUN-2000.
 XX PF 18-NOV-1999; 99WO-IL000622.
 XX PR 19-NOV-1998; 98IL-00127142.
 XX PA (YEDA) YEDA RES & DEV CO LTD.
 XX PA (BOLH/) BOLHUIS R L H.
 XX PI Bolhuis RLH, Eshtar Z, Willemssen RA;
 XX WPI; 2000-451678/39.
 XX PT Immune cells with predefined specificities useful for treating melanoma
 XX PT and immune diseases.
 XX PS Example 6; Page 18; 51pp; English.
 XX CC The human leukocyte antigen (HLA)-A1 binding melanoma-associated
 CC neoplastic protein (MAGE-1) peptide and an irrelevant HLA-A1 binding
 CC peptide derived from Influenza virus A nucleoprotein (see AAY96510) were
 CC used to construct soluble peptide-major histocompatibility complex (MHC)
 CC complexes for identification of antigen-specific T cell receptor (TCR) on
 CC gene-transduced T lymphocytes. Novel immune cells with predefined
 CC specificity, are produced by either complexing the cells with an antigen-
 CC specific MHC-restricted TCR or transfecting the cells with an antigen-
 CC specific MHC-restricted chimeric TCR gene. The antigen-specific MHC-
 CC restricted TCR can be complexed with lymphocytic cells for treatment of a
 CC tumour. Alternatively, the autologous lymphocytes can be transfected with
 CC an antigen-specific MHC-restricted chimeric TCR gene encoding a single
 CC chain TCR (scFV-TCR) which binds to an antigen associated with the tumour
 CC and a segment encoding a signal transducing element of an immune cell.
 CC Compositions comprising the immune cells may be used for the treatment of
 CC cancer (especially melanomas, if the TCR binds to the MAGE-1 antigen),
 CC infectious diseases, autoimmune disease and/or graft rejection
 XX SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 3; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 1 EADPTGHSY 9
 RESULT 44
 AAB33650
 ID AAB33650 standard; peptide; 9 AA.
 XX AC AAB33650;
 XX DT 26-JAN-2001 (first entry)
 XX DE MHC class I associated immunogenic peptide SEQ ID 49.
 XX KW Microparticle; nucleic acid delivery; immunogenic peptide; MHC I; MHC II;
 XX KW major histocompatibility complex; vaginal tissue; mucosal tissue.
 XX OS Unidentified.
 XX PN WO200053161-A2.
 PD 14-SEP-2000.
 XX PF 10-MAR-2000; 2000WO-US006578.
 XX PR 11-MAR-1999; 99US-00266463.
 XX PR 27-MAY-1999; 99US-00321346.
 XX PA (ZYCO-) ZYCOS INC.
 XX PI Lunsford LB, Putnam D, Hedley ML;
 XX WPI; 2000-638130/61.
 XX DR Microparticles useful for administering a nucleic acid into the mucosal
 XX PT tissue preferably vaginal tissue of an animal, comprises a polymeric
 XX PT matrix, a lipid and a nucleic acid molecule.
 XX PS Disclosure; Page 13; 96pp; English.
 XX CC The present invention relates to microparticles which are less than 20
 CC microns in diameter, which comprise a polymeric matrix, a lipid and a
 CC nucleic acid molecule. The microparticle is specifically not encapsulated
 CC in a liposome and does not comprise a cell. The nucleotide sequence
 CC encodes an expression product that binds to major histocompatibility
 CC complex (MHC) type I or II molecules. Peptides AAB33602-B33647 represent
 CC MHC class II associated immunogenic peptides, and AAB33648-B33710
 CC represent MHC class I associated immunogenic peptides. The peptides are
 CC examples of the expression products of the nucleotide sequences which can
 CC be included in the microparticles of the invention. Sequences AAB33711-
 CC B33716 represent alternative expression products and nuclear localisation
 CC signals also used in the invention. The microparticles are useful for
 CC administering a nucleic acid into the mucosal tissue preferably vaginal
 CC tissue of an animal
 XX SQ Sequence 9 AA;
 Query Match 100.0%; Score 52; DB 3; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 1 EADPTGHSY 9
 RESULT 45
 AAB23659
 ID AAB23659 standard; peptide; 9 AA.
 XX AC AAB23659;
 XX DT 05-JAN-2001 (first entry)
 XX DE Cytotoxic T lymphocyte (CTL) epitope SEQ ID NO:11.
 XX KW ATPase; Hsp70; heat shock protein; cytotoxic T lymphocyte; CTL;
 XX KW immune response; infectious disease; malaria; cytotoxic T cell;
 XX KW cytostatic; immunostimulant; cellular immune response inducer;
 XX KW protozoacide; leukaemia; cancer.
 XX OS Homo sapiens.
 XX PN WO200049041-A1.
 XX PD 24-AUG-2000.
 XX PF 18-FEB-2000; 2000WO-JP000941.
 XX PR 19-FEB-1999; 99JP-00041535.
 XX PA (SUME) SUMITOMO ELECTRIC IND CO.
 XX PI Shinbara N, Udono H, Yui K;

XX DR WPI; 2000-543748/49.

XX PT Fused protein capable of inducing cellular immune response, useful as

PT active ingredient for drug compositions in preventing and/or treating

PT infectious diseases such as malaria or cancer.

XX PS Claim 7; Page 53; 72pp; Japanese.

XX CC The present invention describes a fused protein (I) prepared from a

CC peptide containing a CTL (cytotoxic T lymphocyte) epitope recognised by

CC cytotoxic T cells and a protein containing the AIPase domain of a heat

CC shock protein. Also described are: (1) a drug composition containing (1)

CC as active ingredient; (2) a DNA encoding (1); (3) an expression vector

CC containing the DNA of (2); and (4) a transformant which can retain the

CC expression vector of (3). (1) has cytostatic, immunostimulant and

CC protozoacide activities, and can be used as a cellular immune response

CC inducer. The protein is useful as an active ingredient for drug

CC compositions in preventing and/or treating infectious diseases such as

CC malaria or cancer e.g. to provide systemic immunity against leukaemia.

CC The present sequence represents a specifically claimed CTL epitope for

CC use in a fused protein of the present invention

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 46

AA92275

ID AAY92275 standard; peptide; 9 AA.

XX AC AAY92275;

XX DT 10-AUG-2000 (first entry)

XX DE MAGE-A1 antigenic peptide epitope (residues 161-169).

XX KW MAGE-A1; antigen; epitope; cytotoxic T lymphocyte; CTL; complex; HLA;

KW human leukocyte antigen.

XX OS Homo sapiens.

XX PN WO200020445-A2.

XX PD 13-APR-2000.

XX PF 15-SEP-1999; 99WO-IB001664.

XX PR 02-OCT-1998; 98US-00165863.

PR 09-APR-1999; 99US-00289350.

XX (CHAU//) CHAUX P.

PA (LUIT//) LUITEN R.

PA (DEMO//) DEMOTTE N.

PA (DUFF//) DUFFOUR M.

PA (LURQ//) LURQUIN C.

PA (TRAV//) TRAVERSARI C.

PA (STRO//) STROOBANT V.

PA (CORN//) CORNELIS G.R.

PA (BOON//) BOON-FALLEUR T.

PA (VBRU//) VAN DER BRUGGEN P.

PA (SCHU//) SCHULTZ E.

PA (WARN//) WARNIER G.

XX Chaux P, Luiten R, Demotte N, Duffour M, Lurquin C, Traversari C;

PI Stroobant V, Cornelis GR, Boon-Falleur T, Van Der Bruggen P;

PI Schultz E, Warnier G;

WPI; 2000-303739/26.

Isolation of cytotoxic T-lymphocytes clones by successive steps of

stimulation and testing of lymphocytes with antigen presenting cells

PT which present antigens derived from different expression systems.

XX PS Disclosure; Page 21; 99pp; English.

XX CC A novel method of isolation of cytotoxic T-lymphocytes (CTL) clones

CC comprises successive steps of stimulation and testing of lymphocytes with

CC antigen presenting cells (APCs) which present antigens derived from

CC different expression systems. The CTL clones isolated recognize specific

CC antigenic peptides of proteins, preferably of the MAGE family. The APC is

CC autologous and each expression systems is different from at least one of

CC the other expression systems, therefore isolating a cytotoxic T cell

CC clone specific for the protein. The method can also be used to identify

CC an antigenic peptide epitope. Isolated CTL clones specific for a

CC peptide/human leukocyte antigen (HLA) complex are claimed. The CTL cells

CC specific for the complexes, peptides or cells which present the complexes

CC on the cell surface are useful for treating pathological conditions

CC characterized by abnormal expression of the complexes

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 47

AA92591

ID AAY56591 standard; peptide; 9 AA.

XX AC AAY56591;

XX DT 21-FEB-2000 (first entry)

XX DE MAGE-1 gene MHC molecule HLA-A1 peptide SEQ ID NO:6.

XX HLA-A*0201; human leukocyte antigen; cytolytic T cell; CTL; tumour;

KW Melan-A; peripheral blood lymphocyte; PBL; immune complex; melanoma;

KW MHC molecule; beta2-microglobulin; cytotoxic T lymphocyte; vaccine;

KW immune response; cancer; tyrosinase; tumour rejection antigen;

KW major histocompatibility complex.

XX OS Synthetic.

OS Homo sapiens.

XX PN WO9950637-A2.

XX PD 07-OCT-1999.

XX PF 25-MAR-1999; 99WO-US006615.

XX PR 27-MAR-1998; 98US-00049850.

XX (LUDW-) LUDWIG INST CANCER RES.

PA (UYOX-) UNIV OXFORD.

XX Romero P, Dunbar R, Valmori D, Ogg G, Cerrotini J, Cerundolo V;

PI Pittet M;

XX WPI; 2000-052636/04.

XX New isolated complex of binding partners and immune complexes containing

PT major histocompatibility molecules and peptide, used to isolate and detect

PT cytotoxic T cells, particularly directed against cancer.

XX PS Example 50; Page 64; 91pp; English.

XX CC The present invention describes an isolated complex (A) comprising: (i)

XX CC first and second binding partners (BP1, BP2); and (ii) several immune

XX CC complexes (IC) containing a major histocompatibility complex (MHC)

XX CC molecule (I), a beta2-microglobulin molecule (b2MG) and a peptide (II)

XX CC that binds specifically to (I). (A) are used for analysis of cytolytic T

XX CC cells (CTL) for characterisation of an immune response to tumours or for

XX CC monitoring vaccine trials. Particularly they are used to isolate or

XX CC detect particular CTL (especially those in tumour-infiltrated lymph

XX CC nodes), including visualisation of antigen-specific CTL and determination

XX CC if the cells have been activated by in vivo exposure to antigen. Isolated

XX CC precursor cells may be expanded in vitro to produce cells with high

XX CC tumoricidal activity, for therapeutic or diagnostic use. A method from

XX CC the present invention allows: (i) preselection of T cell clones for use

XX CC in immunotherapy according to their homing molecules; and (ii) improves

XX CC the lytic activity of T cells populations by inhibition of natural killer

XX CC cell receptors. The present sequence represents a peptide used in the

XX CC exemplification of the present invention

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 48

AA584270
 ID AAY84270 standard; peptide; 9 AA.

AC AAY84270;

DT 12-JUL-2000 (first entry)

XX Tumour associated antigen derived from MAGE-A1.

XX tumour rejection antigen; macrophage colony stimulating gene;
 XX macrophage-colony stimulating factor; antigen presenting cell;
 XX human leukocyte antigen; CD8+ cytotoxic T lymphocyte.

OS Homo sapiens.

XX WO200013699-A1.

XX 16-MAR-2000.

PF 03-SEP-1999; 99WO-US020344.

XX 04-SEP-1998; 98US-0099077P.

XX (LUDW-) LUDWIG INST CANCER RES.

PI Probst-Kepper M, Van Den Eynde B, Boon-Falleur T;

XX WPI; 2000-256859/22.

XX Isolated polypeptide used to treat subjects having a disorder
 XX characterized by expression of alternative open reading frame macrophage-
 XX colony stimulating factor comprises 25 amino acid residue sequence.

XX Disclosure; Page 20; 74pp; English.

XX AAY84270-Y84303 represent peptides which are tumour associated antigens.
 XX They can be administered in conjunction with the tumour rejection antigen.
 XX Precursor of the invention to induce anti-tumour responses. The tumour
 XX rejection antigen precursor of the invention is encoded by an alternative
 XX open reading frame (ORF) of human macrophage colony stimulating gene.

CC Peptides derived from the alternative ORF of macrophage-colony
 CC stimulating factor, when presented by an antigen presenting cell having a
 CC human leukocyte antigen (HLA) class I molecule, effectively induce the
 CC activation and proliferation of CD8+ cytotoxic T lymphocytes. Polypeptide
 CC and nucleic acids derived from the alternate ORF of macrophage-colony
 CC stimulating factor are useful for enriching selectively a population of T
 CC lymphocytes with CD8+ T lymphocytes. They are also useful for diagnosing
 CC a disorder characterized by expression of the polypeptide, and for
 CC identifying functional variants and mimetics

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 1 EADPTGHSY 9

RESULT 49

AA582953
 ID AAY82953 standard; peptide; 9 AA.

AC AAY82953;

DT 19-JUN-2000 (first entry)

XX MAGE-1 tumour associated antigen.

XX Tumour; tumour associated antigen; retrovirus; antisense; treatment;
 XX probe; primer; HLA; cytotoxic T-lymphocyte; cancer; testis; antibody;
 XX CTL; helper T-lymphocyte; MAGE; BAGE; GAGE; Gmf-V; MUM; CDK4;
 XX beta catenin; tyrosinase; Melan-A; gp100; PRAME.

OS Homo sapiens.

XX WO200006598-A1.

XX 10-FEB-2000.

PF 15-JUL-1999; 99WO-US016236.

XX 29-JUL-1998; 98US-00124398.

XX (LUDW-) LUDWIG INST CANCER RES.

XX Coulie P, Boon-Falleur T;

XX WPI; 2000-205453/18.

XX Novel nucleic acids encoding melanoma associated gene products and their
 XX fragments and variants, useful for treating endogenous retrovirus
 XX mediated tumors, especially melanomas.

XX Disclosure; Page 25; 77pp; English.

XX Tumor associated disorders (e.g. endogenous retrovirus mediated tumors,
 XX especially melanomas) can be treated or ameliorated by administering
 XX antisense nucleic acid to reduce the expression of tumour associated
 XX genes such as HERV-AVL3-B. Progression of a disorder characterized by the
 XX expression of the HERV-AVL3-B endogenous retrovirus tumor rejection
 XX antigen (ERTRA) can be diagnosed or monitored by contacting a non-testis
 XX biological sample with an agent that binds to the complex and determining
 XX the interaction. A disorder can also be treated by administering an agent
 XX that enriches the presence of HLA and HERV-AVL3-B ERTRA or by
 XX administering autologous cytotoxic T-cells sufficient to ameliorate the
 XX disorder. Fragments of the HERV-AVL3-B coding sequence are useful as
 XX probes or amplification primers for determining the expression of HERV-
 XX AVL3-B genes, to express tumor associated polypeptides in vivo and in
 XX vitro and to prepare fragments of such polypeptides to synthesize
 XX antibodies. Antigenic peptides of HERV-AVL3-B can be useful for

CC generating antibodies either alone or as fusion proteins, as components
 CC of immunoassay and for determining the binding specificity of HLA
 CC molecules and/or cytotoxic T lymphocyte (CTL) for HERV-AVL3-B proteins.
 CC Peptides derived from the HERV-AVL3-B coding sequence and which are
 CC presented by MHC molecules and recognised by CTL or helper T-lymphocytes
 CC can be combined with peptides from other tumour rejection antigens by
 CC preparation of hybrid nucleic acids or polypeptides to produce polytopes.
 CC This exemplary tumour associated peptide antigen corresponds to amino
 CC acids 161-169 of the MAGE-1 polypeptide. See also MAY82953-Y82986
 XX
 XX
 SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 DB 1 EADPTGHSY 9

RESULT 50
 AAB02596
 ID AAB02596 standard; peptide; 9 AA.
 XX
 AC AAB02596;
 XX
 DT 18-AUG-2000 (first entry)
 XX
 DE Tumour associated peptide antigen from MAGE-A1 #1.
 XX
 KW MAGE-A3; HLA class II; human leukocyte antigen; antibody; vaccine;
 KW cancer; human; tumour; tumour associated gene product.
 XX
 OS Homo sapiens.
 XX
 PN WO200020581-A1.
 XX
 PD 13-APR-2000.
 XX
 PF 15-SEP-1999; 99WO-US021230.
 XX
 PR 05-OCT-1998; 98US-00166448.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 PA (UTVR-) UNIV VRIJE BRUSSEL.
 XX
 PI Chaux P, Stroobant V, Boon-Falleur T, Van Der Bruggen P;
 PI Schultz ES, Van Snick J, Lethe B, Thielemans K, Corthals J;
 PI Heirman C;
 XX
 DR WPI; 2000-317713/27.
 XX
 PT New MAGE-A3 class II binding peptides, useful to diagnose and treat
 PT tumors, are fragments of MAGE-A3 which bind to and are presented to T
 PT lymphocytes by human leukocyte antigen class II molecules.
 XX
 PS Disclosure; Page 32; 119pp; English.

CC The present invention relates to MAGE-A3 (tumour associated gene product)
 CC human leukocyte antigen (HLA) class II-binding peptides (see AAB02586-
 CC B02595, and AAB02633-B02637). These peptides are presented to T cells in
 CC the context of HLA class II molecules. The peptides stimulate the
 CC activity and proliferation of CD4+ T lymphocytes. The invention also
 CC includes nucleotide sequences encoding MAGE-3A peptides (see AAA37928 and
 CC AAA37938-A37940). The peptides and nucleotide sequences can be used to
 CC create antibodies against the MAGE-A3 peptides, the antibodies, peptides
 CC and nucleotide sequences can be used to create a vaccine. The peptides
 CC are used to diagnose or treat a disorder characterized by expression of
 CC MAGE-3, particularly cancer. The methods can also be used in the
 CC diagnosis of disorders associated with MAGE-3 expression. Included in the
 CC invention are other human tumour antigens (see AAB02596-B02637), and PCR
 CC primers used in the course of the invention (see AAA37929-A37937 and

CC AAA37941-A37942)
 XX
 SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 DB 1 EADPTGHSY 9

RESULT 51
 AAB08668
 ID AAB08668 standard; peptide; 9 AA.
 XX
 AC AAB08668;
 XX
 DT 02-JAN-2001 (first entry)
 XX
 DE Antigenic peptide from tumour rejection antigen MAGE-A1.
 XX
 KW EphA3; HLA class II-binding peptide; human leukocyte antigen; antigen;
 KW CD4+ T lymphocyte; tumour associated gene; vaccine.
 XX
 OS Homo sapiens.
 XX
 PN WO200050599-A1.
 XX
 PD 31-AUG-2000.
 XX
 PF 18-FEB-2000; 2000WO-US004326.
 XX
 PR 22-FEB-1999; 99US-0121170P.
 PR 08-OCT-1999; 99US-0159566P.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 XX
 PI Chiari R, Coulie P, Boon-Falleur T;
 XX
 DR WPI; 2000-572089/53.
 XX
 PT Novel tyrosine kinase receptor, EphA3 human leukocyte antigen (HLA) class
 PT II binding peptide and nucleic acid encoding the receptor, useful for
 PT diagnosing and treating conditions characterized by expression of EphA3
 PT gene.
 XX
 PS Disclosure; Page 34; 107pp; English.

CC AAB08668-B08704 represent antigenic peptides characteristic of tumours.
 CC The peptides may be combined in vaccines with a human EphA3 HLA (human
 CC leukocyte antigen) class II-binding peptide. EphA3 antigens, when
 CC presented by an antigen presenting cell having a HLA class II molecule,
 CC effectively induce activation and proliferation of CD4+ T lymphocytes.
 CC EphA3 is a tumour associated gene. EphA3 HLA binding peptides are used
 CC for selectively enriching a population of T lymphocytes. The peptides are
 CC also used for diagnosing a disorder characterized by EphA3 or EphA3 HLA
 CC binding peptide expression. The peptides are also used to treat a
 CC disorder characterized by EphA3 expression. The EphA3 binding peptides
 CC are useful in producing vaccines and antibody

XX
 SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 DB 1 EADPTGHSY 9

```

RESULT 52
AAM98899
ID AAM98899 standard; peptide; 9 AA.
XX
AC AAM98899;
XX
DT 07-DEC-2001 (first entry)
XX
DE Vaccine related MHC ligand peptide SEQ ID NO:2.
XX
KW Glutamic acid; glutamine; vaccine; major histocompatibility complex; MHC;
KW immunomodulator; antiallergic; endocrine; neuroprotectant; virucidal;
KW bactericidal; antiparasitic; fungicidal; cytostatic; medicine;
KW pharmaceutical; immune disorder; immune deficiency; autoimmune;
KW hypersensitivity; allergy; graft rejection; infection; hormonal disorder;
KW central nervous system disease; cancer; melanoma; anti-melanoma vaccine;
KW human immunodeficiency virus.
XX
OS Homo sapiens.
XX
PN WO200170772-A2.
XX
PD 27-SEP-2001.
XX
PF 22-MAR-2001; 2001WO-FR000872.
XX
PR 23-MAR-2000; 2000FR-00003711.
XX
PA (FABR ) FABRE MEDICAMENT SA PIERRE.
XX
PI Klinguer-Hamour C, Corvaia N, Beck A, Goetsch L;
XX
DR WPI; 2001-611470/70.
XX
PT Stabilized pharmaceutical containing N-terminal glutamic acid or
PT glutamine, useful e.g. in anti-melanoma vaccines, is an addition salt
PT with strong acid.
XX
PS Claim 9; Page 29; 149pp; French.
XX
CC The present invention describes a pharmaceutical compound (I) that
CC contains an N-terminal glutamic acid (Glu) or glutamine (Gln) residue in
CC the form of an addition salt with a strong, physiologically acceptable
CC acid (II). Also described are: (a) a pharmaceutical composition
CC containing at least one (I); (b) a vaccine containing at least one (I)
CC where this is a major histocompatibility complex (MHC) ligand (Ia); (c) a
CC method for in vitro diagnosis of diseases associated with the presence of
CC (Ia); (d) a kit for method (c) that includes a (Ia); and (e) a process
CC for preparing (I). (I) has immunomodulator, endocrine, antiallergic,
CC neuroprotectant, virucidal, bactericidal, antiparasitic, fungicidal and
CC cytostatic activities. (I) are useful, in human or veterinary medicine,
CC in pharmaceutical compositions (for treating immune disorders, e.g.
CC immune deficiency, autoimmune states, hypersensitivity, allergy, graft
CC rejection, infection, hormonal disorders and central nervous system
CC diseases), also, where (I) is a MHC ligand (Ia), in vaccines for
CC treatment or prevention of: (i) viral, bacterial, parasitic or fungal
CC infections; or (ii) of cancers. A particular application is in anti-
CC melanoma vaccines. (I) are also useful for in vitro diagnosis of diseases
CC associated with interactions between MHC and (I), e.g. melanoma and human
CC immunodeficiency virus infection. AAM98898 to AAM99592 represent peptides
CC which can be used in pharmaceutical compounds from the present invention
XX
SQ Sequence 9 AA;
Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db 1 EADPTGHSY 9

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RESULT 53
AAE02085
ID AAE02085 standard; peptide; 9 AA.
XX
AC AAE02085;
XX
DT 31-JUL-2001 (first entry)
XX
DE MAGE-A1 human leukocyte antigen-A1-binding peptide.
XX
KW Human; cytostatic; immunogen; MAGE-A1; human leukocyte antigen; HLA; CD8;
KW cytotoxic T lymphocyte; cancer; carcinoma; melanoma; myeloma;
KW brain tumour; sarcoma; vaccine; gene therapy.
XX
OS Homo sapiens.
XX
PN WO200129220-A2.
XX
PD 26-APR-2001.
XX
PF 19-OCT-2000; 2000WO-US028852.
XX
PR 19-OCT-1999; 99US-0160374P.
XX
PR 01-FEB-2000; 2000US-0179570P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Heidecker L, Van Den Eynde B, Boon-Falleur T, Brasseur F;
XX
DR WPI; 2001-328498/34.
XX
PT New antigenic peptides derived from MAGE-A12 polypeptides, useful for
PT diagnosis and treatment of cancer, such as bladder, lung, breast, brain,
PT prostate and renal carcinomas.
XX
PS Disclosure; Page 19; 69pp; English.
XX
CC The patent discloses antigenic peptides derived from MAGE-A12 protein and
CC presented by human leukocyte antigens (HLAs). These antigenic peptides
CC when presented by an antigen presenting cell having a HLA class I
CC molecule, effectively induce the activation and proliferation of CD8+
CC cytotoxic T lymphocytes (CTLs). MAGE-A12 is useful for treating a subject
CC having a disorder characterised by expression of MAGE-A12. The protein
CC microarray comprising MAGE-A12 is useful for diagnosing a disorder,
CC especially cancer, by determining the binding of an antibody, T
CC lymphocytes or a HLA molecule isolated from the subject suspected of
CC having the disorder characterised by the expression of MAGE-A12. MAGE-A12
CC is useful for treating cancers, including bladder carcinomas, melanomas,
CC oesophageal, lung, head and neck, breast, colorectal carcinomas,
CC myelomas, brain tumours, sarcomas, prostate and renal carcinomas and to
CC produce antibodies. MAGE-A12 antibodies are useful for diagnosing
CC disorders characterised by expression of MAGE-A12 immunogenic
CC polypeptide. These MAGE-A12 peptides are used as vaccines. They are also
CC used in gene therapy. The present sequence is an antigenic peptide
CC derived from MAGE-A1. This peptide which is characteristic of tumours is
CC presented by HLA-A1 MHC (major histocompatibility complex) and is
CC recognised by CTLs
XX
SQ Sequence 9 AA;
Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db 1 EADPTGHSY 9

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```

RESULT 54
AAG64446
ID AAG64446 standard; peptide; 9 AA.
XX

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AC AAG64446;
XX
DT 20-SEP-2001 (first entry)
XX
DE Human tumour-associated antigen (TAA) peptide MAGE-1.A1.
XX
KW Human; TAA; tumour-associated antigen; vaccine; cancer; tumour;
KW immature autologous dendritic cell; hybrid; hybridoma; treating;
KW carcinogenesis; metastasis.
XX
OS Homo sapiens.
XX
PN EP1111039-A1.
XX
PD 27-JUN-2001.
XX
PF 22-DEC-1999; 99EP-00870279.
XX
PR 22-DEC-1999; 99EP-00870279.
XX
PA (ULBR) UNIV LIBRE BRUXELLES.
XX
PI Lambermont M, Tougouz-Neveassignsky M;
XX
DR WPI; 2001-419933/45.
XX
PT New composition containing 30-95 per cent dendritic cells of the total
PT number of blood cells present in the composition, useful for inducing an
PT immune anti-tumor response, and treating or preventing tumor, cancer or
PT metastases.
XX
PS Example 1; Page 5; 15pp; English.
XX
CC The present sequence is that of a human tumour-associated antigen (TAA)
CC useful to the invention. The invention relates to a composition
CC comprising immature autologous clinical grade dendritic cells suitable
CC for vaccination of cancer patients. As part of the cells preparation they
CC are loaded with the relevant clinical grade of TAA or with a tumoural
CC cell obtained from the patient for the generation of one or more
CC dendritic-like cells, tumour cell hybrids or hybridomas. The composition
CC is useful for inducing an immune anti-tumour response in a patient,
CC especially for treating or preventing carcinogenesis or cancer, tumour
CC development and metastases. The composition is also useful in
CC manufacturing a medicament for inducing anti-tumour responses in a
CC patient, for treating or preventing cancer, tumour or metastases
XX
SQ Sequence 9 AA;
Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9
RESULT 55
AAB95896
ID AAB95896 standard; peptide; 9 AA.
XX
AC AAB95896;
XX
DT 25-JUN-2001 (first entry)
XX
DE MHC class-I associated MAGE-1 epitope SEQ ID 3.
XX
KW Epitope; tumour antigen; antiviral; immunostimulatory; cervical cancer;
KW human papillomavirus-associated disease; condyloma; cervical dysplasia;
KW cervical dysplasia; major histocompatibility complex; MHC I.
XX
OS Unidentified.
XX

PN WO200119408-A1.
XX
PD 22-MAR-2001.
XX
PF 18-SEP-2000; 2000WO-US025559.
XX
PR 16-SEP-1999; 99US-00398534.
PR 16-SEP-1999; 99US-0154665P.
PR 09-DEC-1999; 99US-00458173.
PR 09-DEC-1999; 99US-0169846P.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Hedley ML, Urban RC, Chicx RM;
XX
DR WPI; 2001-265996/27.
XX
PT Novel nucleic acids encoding polypeptide polypeptides containing multiple
PT epitopes from one or more proteins, useful for treating tumors and as
PT vaccines against pathogenic agents.
XX
PS Disclosure; Page 7; 64pp; English.
XX
CC This invention relates to polynucleotides encoding a hybrid polypeptide
CC comprising a signal sequence and three segments that are either
CC contiguous or separated by a spacer amino acid or spacer peptide. The
CC invention specifically details polynucleotides encoding a polypeptide
CC peptide where the peptide segments are tumour antigens or a naturally
CC occurring protein of a pathogenic agent. The polypeptide peptides exhibit
CC antiviral and immunostimulatory activity. The polynucleotide and
CC polypeptide peptides are useful for eliciting an immune response in a
CC mammal. The polynucleotide and protein are useful as vaccines for
CC treating tumors and pathogenic infections. The polynucleotide is also
CC useful for preventing or treating human papillomavirus (HPV)-associated
CC diseases, particularly exophytic condyloma, flat condyloma, cervical
CC cancer, respiratory papilloma, conjunctival papilloma, genital-tract HPV
CC infection, cervical dysplasia, high grade squamous intraepithelial
CC lesions, and anal HPV infection. The polynucleotide and polypeptide are
CC useful for generating or enhancing prophylactic or therapeutic immune
CC response against pathogens, tumours or autoimmune diseases in a
CC population of individuals having diverse MHC allotypes, as positive
CC controls in T cell stimulation assays in vitro, and as tools to
CC understand processing of epitopes within cells. Peptides AAB95894 -
CC AAB96037 and AAB96044 - AAB96048 represent major histocompatibility
CC complex I (MHC I) associated tumour and pathogen antigens. The peptides
CC can be used as part of the polypeptide proteins of the invention. Also
CC included are examples of the polypeptide proteins represented by AAB96050
CC - AAB96052, and localisation signal peptides AAB96038 - AAB96043 and
CC AAB96049 which can be used in the construction of the polypeptide
XX
CC peptides
XX
SQ Sequence 9 AA;
Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
DB 1 EADPTGHSY 9
RESULT 56
AAG93746
ID AAG93746 standard; peptide; 9 AA.
XX
AC AAG93746;
XX
DT 17-SEP-2001 (first entry)
XX
DE Human melanoma antigen gene-1 (MAGE-1) peptide 1.
XX
KW Continuous flow production; microparticle; gene therapy;
XX

KW antisense therapy; vaccination; treatment; autoimmune disease;
 XX immune response modulation.

OS Homo sapiens.

PN WO200136583-A1.

XX 25-MAY-2001.

XX 17-NOV-2000; 2000WO-US031770.

XX 19-NOV-1999; 99US-00443654.

XX (ZYCO-) ZYCOS INC.

XX Hedley ML, Hsu Y, Tyo M;

XX WPI; 2001-425203/45.

XX Continuous production of microparticles containing nucleic acid for e.g.
 PT gene therapy, comprises mixing a solution of polymeric material and
 PT nucleic acid with a surfactant solution, removing solvent and drying.

XX Disclosure; Page 11; 47pp; English.

XX The present sequence is that of a peptide of the invention. The invention
 CC relates to a method for scalable, continuous flow production of a nucleic
 CC acid containing microparticle that maintains the structural integrity of
 CC the associated nucleic acid and results in a microparticle having purity
 CC suitable for introduction into an animal host. Microparticles prepared
 CC according to the method can be used for delivery of a nucleic acid for
 CC gene therapy; antisense therapy, vaccination, treatment of autoimmune
 CC disease and either specific or non-specific modulation of an immune
 CC response. The microparticles may also be used to deliver nucleic acid
 CC encoding a protein or peptide useful in any kind of therapy. The method
 CC is economical, aseptic and scalable. The method also enables control over
 CC the size of microparticles. The microparticles produced are free of
 CC impurities such as organic solvents and are readily dispersed in a wide
 CC range of dispersing agents

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 4; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 57

AAU72014

ID AAU72014 standard; peptide; 9 AA.

XX AAU72014;

XX 26-FEB-2002 (first entry)

XX MAGE-1 protein antigen #8.

XX Melanoma antigen; MART-1; MAGE-1; gp100; cytostatic; immune response;
 XX immunotherapeutic; heat shock protein; tyrosinase; BAGE; NYES01; GM2;
 KW tyrosinase related protein 1; tyrosinase related protein 2; vaccine;
 KW javelin molecule; melanoma antigen recognised by T cells-1; human.

OS Homo sapiens.

XX WO200178655-A2.

XX 25-OCT-2001.

XX 17-APR-2001; 2001WO-US012449.

XX 17-APR-2000; 2000US-0197462P.

XX (HOUG/) HOUGHTON A.

PA (LIVI/) LIVINGSTON P.

PA (ALAW/) AL-AWGATI Q.

PA (MAYH/) MAYHEW M.

PA (HOEM/) HOE M.

XX Houghton A, Livingston P, Al-Awgati Q, Mayhew M, Hoe M;

XX WPI; 2001-663092/76.

XX Anti cancer vaccine for the treatment of melanoma comprises a heat shock
 PT protein and a melanoma antigen i.e. tyrosinase.

XX Claim 2; Page 13; 150pp; English.

XX The invention relates to a method of induction of an immune response,
 CC comprising administration of an immunotherapeutic composition, comprising
 CC a heat shock protein, and a melanoma antigen, where the melanoma antigen
 CC is selected from tyrosinase, tyrosinase related protein 1, tyrosinase
 CC related protein 2, gp 100, MAGE antigens, BAGE antigens, NYES01, MART
 CC antigens, GM2, antigenic portions and combinations of these. The melanoma
 CC antigen is covalently bound to a javelin molecule, where the melanoma
 CC antigen bound to the javelin molecule is non-covalently bound to the heat
 CC shock protein. The composition is useful for inducing an immune response
 CC for the treatment of melanoma. AAU71980-AAU72481 represent melanoma
 CC antigen peptides of the invention

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 4; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 58

AAE99968

ID AAE99968 standard; peptide; 9 AA.

XX AAE99968;

XX 27-JUL-2001 (first entry)

XX Delayed type hypersensitivity test MAGE-1 peptide.

XX Cancer; melanoma; vaccine; immunotherapy; gene therapy; dendrite;
 KW monocyte; interleukin-2; IL-2; antigen presenting cell; APC.

XX Unidentified.

XX WO200128583-A2.

XX 26-APR-2001.

XX 18-OCT-2000; 2000WO-US028837.

XX 18-OCT-1999; 99US-0240933P.

XX (SVIN-) ST VINCENT'S HOSPITAL & MEDICAL CENT NEW.

XX Wallack MK, Sivanandham M;

XX WPI; 2001-290821/30.

XX Novel melanoma vaccine for preventing, treating cancer, has recombinant
 PT interleukin-2 encoding vaccinia virus and antigen presenting cells pulsed
 PT with melanoma antigens derived from cancerous melanoma cell lines.

XX Example 2; Page 28; 54pp; English.

XX The present invention describes an immunotherapeutic vaccine comprising

CC antigen presenting cells pulsed with a preparation containing enucleated

CC cancer cell cytosol and membranes, which have been infected with a

CC vaccinia virus encoding an immunostimulatory molecule. The antigen

CC presenting cells (APCs) are preferably monocytes or dendrites. This

CC vaccine is particularly useful in the treatment of melanoma, but can also

CC be used in the treatment of other cancers, including squamous cell

CC carcinoma, lung, breast, testicular, prostatic, ovarian, bladder, other

CC skin, brain, pancreatic, primary hepatic and gastrointestinal cancers,

CC head and neck, thyroid and renal cell carcinomas, soft tissue and bone

CC sarcomas, angiosarcomas, mast cell tumours, lymphomas and haematopoietic

CC neoplasias. The present sequence is a MAGE-1 peptide used in a delayed

CC type hypersensitivity assay to evaluate the immune response against

CC melanoma antigens

XX Sequence 9 AA;

SQ

Query Match 100.0%; Score 52; DB 4; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 59

AAB31302

ID AAB31302 standard; peptide; 9 AA.

AC AAB31302;

XX 20-APR-2001 (first entry)

DE Exemplary antigen characteristic of tumours and derived from MAGE-A1.

XX MAGE-A1; HLA; human leukocyte antigen; CD4+ T lymphocyte; cancer;

KW MAGE-A1 HLA class II-binding protein; vaccine.

XX Homo sapiens.

XX WO200078806-A1.

XX 28-DEC-2000.

XX 14-JUN-2000; 2000WO-US016287.

XX 18-JUN-1999; 99US-00336091.

XX (LUDW-) LUDWIG INST CANCER RES.

XX Van Snick J, Lethe B, Chaux P, Boon-Falleur T, Van Der Bruggen P;

XX WPI; 2001-102698/11.

XX Novel MAGE-A1 human leukocyte antigen class II peptides which bind to and

PT are presented to the class II molecules, useful for inducing immune

PT response and treating cancers characterized by expression of MAGE-A1.

XX Disclosure; Page 31; 78pp; English.

XX AAB31302-59 represent exemplary antigens which are characteristic of

CC tumours. They can be used to enhance the immune response of vaccines

CC comprising peptides derived from human MAGE-A1 HLA (human leukocyte

CC antigen) class II-binding protein. Peptides derived from the MAGE-A1 HLA

CC binding protein stimulate the activity and proliferation of CD4+ T

CC lymphocytes. The MAGE-A1 HLA binding protein is useful as a diagnostic

CC agent for diagnosing a disorder characterized by expression of MAGE-A1.

CC The protein is used for treating a disorder characterized by expression

CC of MAGE-A1 such as cancers e.g. melanoma, squamous cell carcinomas,

CC colorectal carcinomas, osteosarcomas, and lymphocytic leukemias. Peptides

CC derived from the MAGE-A1 HLA binding protein are useful in the production

CC of anti-tumour vaccines

XX Sequence 9 AA;

SQ

Query Match 100.0%; Score 52; DB 4; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 60

AAB82003

ID AAB82003 standard; peptide; 9 AA.

XX AAB82003;

XX 12-JUN-2001 (first entry)

XX HLA-A1 binding peptide derived from MAGE-A1.

XX Multiple myeloma; tumour rejection antigen precursor; MAGE; BAGE; GAGE;

KW LAGE; NY-ESO-1; PRAME; DAGE; human; HLA.

XX Homo sapiens.

XX US6210886-B1.

XX 03-APR-2001.

XX 30-OCT-1998; 98US-00183931.

XX 04-FEB-1998; 98US-00018422.

XX (LUDW-) LUDWIG INST CANCER RES.

XX Van Baren N, Brasseur F, Boon-Falleur T;

XX WPI; 2001-289628/30.

XX Detecting multiple myeloma in a patient, comprises contacting a nucleic

PT acid containing sample taken from bone marrow or blood with a

PT hybridization probe specific for a tumor rejection antigen precursor.

XX Example 3; Col 11; 16pp; English.

XX The present invention relates to a method for detecting multiple myeloma.

CC The method comprises contacting a nucleic acid containing a sample taken

CC from a bone marrow or blood of a patient, with a hybridisation probe

CC specific for a tumour rejection antigen precursor. Tumour rejection

CC antigen precursors used in the present invention are the MAGE family,

CC BAGE, GAGE, LAGE, NY-ESO-1 and PRAME (previously referred to as DAGE).

CC Expression of the tumour rejection antigen precursor indicates possible

CC multiple myeloma in the patient. The method can also be used for

CC monitoring the disease progress and course of therapeutic regime. The

CC present sequence is a peptide derived from a tumour rejection antigen

CC precursor, which was used in the method of the present invention

XX Sequence 9 AA;

SQ

Query Match 100.0%; Score 52; DB 4; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 61
AAE06810
ID AAE06810 standard; peptide; 9 AA.
XX
XX
AC AAE06810;
XX
DT 16-OCT-2001 (first entry)
XX
DE Human MAGE-A1 antigenic peptide #4.
XX
KW MAGE-A1 antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW gene therapy; human; tumour rejection antigen; TRA.
XX
OS Homo sapiens.
XX
XX WO200153833-A1.
XX
XX 26-JUL-2001.
XX
XX 19-JAN-2001; 2001WO-US002008.
XX
XX 20-JAN-2000; 2000US-0177242P.
PR
XX 25-OCT-2000; 2000US-0243212P.
XX
XX (LUDW-) LUDWIG INST CANCER RES.
XX
XX Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;
PI
XX WPI; 2001-488724/53.
XX
XX Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT diagnosis and treatment of a disorder characterized by expression of MAGE
PT -A1 or -A3.
XX
XX Claim 2; Page 45; 103pp; English.
XX
XX The invention relates to functional variants and isolated mimetics of a
CC MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC antigenic peptide acts by binding to HLA molecules on tumour cells and
CC stimulating recognition of these cells and thus signalling them to the
CC immune system for destruction. The peptide when presented by HLA molecule
CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC The MAGE antigenic peptide is used to treat and diagnose disorders
CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC e.g. melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC tumours. The present sequence is a human MAGE-A1 antigenic peptide
CC presented by HLA-B35
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EADPTGHSY 9
Db 1 EADPTGHSY 9

RESULT 62
AAE20396
ID AAE20396 standard; peptide; 9 AA.
XX
XX
AC AAE20396;
XX
DT 18-JUN-2002 (first entry)
XX
DE Human melanoma tumour associated antigen (TAA) peptide epitope #1.
XX
KW Gene-delivery compound; single-chain binding polypeptide; SCBP;
KW nucleic acid-binding moiety; NABM; lipid-associating moiety; LAM;
KW gene therapy; targetted gene delivery; tumour associated antigen; TAA;
KW epitope; human.
XX
OS Homo sapiens.
XX
XX WO200200914-A2.
PN
XX 03-JAN-2002.
XX
XX 25-JUN-2001; 2001WO-US020182.
PF
XX 23-JUN-2000; 2000US-0213653P.
PR
XX (HUST/) HUSTON J S.
XX (WILS/) WILS P.
PA (QUAN/) QUAN Z.
PA (LAUR/) LAURENT O.
PA (MARA/) MARASCO W A.
PA (SCHE/) SCHERMAN D.
XX
XX Huston JS, Wils P, Quan Z, Laurent O, Marasco WA, Scherman D;
PI WPI; 2002-268789/31.
XX
XX Gene-delivery compound for targeted gene delivery, comprises single-chain
PT binding polypeptide having effector segment with cysteinyl residue and
PT nucleic acid-binding/lipid-associating moiety coupled to polypeptide by
PT residue.
XX
XX Disclosure; Page 29; 96pp; English.
XX
XX The invention relates to gene-delivery compound comprising a single-chain
CC binding polypeptide (SCBP) having at least one effector segment having a
CC cysteinyl residue, and a nucleic acid-binding moiety (NABM) or a lipid-
CC associating moiety (LAM) coupled to SCBP by the residue. Gene-delivery
CC compound is useful for targeted gene delivery for treating diseases by
CC gene therapy. The present sequence is human melanoma tumour associated
CC antigen (TAA) peptide epitope. TAA may be targetted by the SCBP of the
CC present invention
XX
XX Sequence 9 AA;
SQ
Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EADPTGHSY 9
Db 1 EADPTGHSY 9

RESULT 63
AAO17093
ID AAO17093 standard; peptide; 9 AA.
XX
XX AAO17093;
AC
XX 06-JUN-2002 (first entry)
DT
XX
XX Human mage-1 protein antigen SEQ ID NO: 13.
DE
XX Cryopreserved mature dendritic cell; antigen; vaccine; cytostatic;
KW virucide; cancer; hepatitis B virus.
XX
XX Homo sapiens.
OS

XX WO200216560-A1.
 XX 28-FEB-2002.
 XX
 XX 24-AUG-2001; 2001WO-EP009790.
 XX 24-AUG-2000; 2000DE-01041515.
 XX (SCHU/) SCHULER G.
 XX Schuler G, Schuler-Thurner B;
 XX WPI; 2002-292062/33.
 XX
 XX Preparation of cryopreserved, mature dendritic cells, useful in vaccines,
 XX comprises culturing immature cells on medium containing cocktail of
 XX maturation factors, then freezing.
 XX
 XX Disclosure; Fig 28; 87pp; German.
 XX
 XX The present invention relates to a method for the preparation of ready-
 XX for-use, cryopreserved, mature dendritic cells comprising growing
 XX immature dendritic cells in a culture medium that includes a 'maturation
 XX cocktail' of one or more maturation stimuli and freezing the resulting
 XX matured cells in a freezing medium that does not contain heterologous
 XX serum. When loaded with antigens, the dendritic cells can be used as
 XX vaccines, e.g. against tumors and hepatitis B virus. The present
 XX sequence is an antigen described in the invention
 XX
 XX Sequence 9 AA;
 XX
 XX Query Match 100.0%; Score 52; DB 5; Length 9;
 XX Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 XX QY 1 EADPTGHSY 9
 XX |||||
 XX DB 1 EADPTGHSY 9
 XX |||||
 XX
 XX RESULT 64
 XX ID AAM50608
 XX AAM50608 standard; peptide; 9 AA.
 XX AC AAM50608;
 XX
 XX 04-APR-2002 (first entry)
 XX
 XX Peptide from MAGE-1 protein.
 XX
 XX MAGE-1; Melan-A; melanoma; human leukocyte antigen; HLA; CTL;
 XX cytotoxic T lymphocyte; T cell; vaccine.
 XX
 XX Homo sapiens.
 XX
 XX US6326200-B1.
 XX
 XX 04-DEC-2001.
 XX
 XX 18-JUN-1998; 98US-00099543.
 XX
 XX 23-JUN-1997; 97US-00880963.
 XX 16-APR-1998; 98US-00061388.
 XX (LUDW-) LUDWIG INST CANCER RES.
 XX
 XX Valmori D, Cerottini J, Romero P;
 XX WPI; 2002-129502/17.
 XX
 XX A method for provoking proliferation of cytolytic T cells where a sample
 XX containing cytolytic T cell precursors is contacted with a complex of a

PT decapeptide and an HLA-A2 molecule is useful to generate cytolytic T
 PT cells.
 XX
 XX Example 7; Col 13; 13pp; English.
 XX
 XX The present sequence is that of a peptide derived from MAGE-1 that is
 XX known to bind to human leukocyte antigen HLA-A1 molecules to the
 XX stimulate lysis. The peptide was as a control in a functional peptide
 XX competition assay to examine the binding of melanoma antigen Melan-A
 XX derived peptides of the invention (see AAM50588-89 and AAM50600-01) to
 XX human leukocyte antigen HLA-Astar201. The control showed no binding in
 XX this assay. The invention provides new nonapeptides and decapeptides that
 XX act as HLA binders and CTL stimulators. A claimed method of provoking the
 XX proliferation of CTLs involves contacting a sample containing CTL
 XX precursors with a complex of a peptide, especially those given in
 XX AAM50600-02, and an HLA-A2 molecule
 XX
 XX Sequence 9 AA;
 XX
 XX Query Match 100.0%; Score 52; DB 5; Length 9;
 XX Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 XX QY 1 EADPTGHSY 9
 XX |||||
 XX DB 1 EADPTGHSY 9
 XX |||||
 XX
 XX RESULT 65
 XX AAE19080
 XX ID AAE19080 standard; peptide; 9 AA.
 XX AC AAE19080;
 XX
 XX 21-MAY-2002 (first entry)
 XX
 XX HLA-A1 restricted target antigen MAGE-1 immunological epitope #1.
 XX
 XX Human leukocyte antigen; HLA; pharmaceutical composition; target antigen;
 XX immunological epitope; replication-defective virus; RDV; immune response;
 XX chemotherapy; granulocyte-monocyte-colony stimulating factor; cytostatic;
 XX GM-CSF; MHC; major histocompatibility complex; tumour; head; pancreatic;
 XX neck; breast; prostate; colorectal; melanoma; myelodysplastic syndrome;
 XX metastatic breast skin lesion; corticosteroid therapy; erythropoietin;
 XX metaplasia; neutropenia; vaccine; immunostimulant.
 XX
 XX Homo sapiens.
 XX
 XX WO200195919-A2.
 XX
 XX 20-DEC-2001.
 XX
 XX 15-JUN-2001; 2001WO-US019201.
 XX
 XX 15-JUN-2000; 2000US-0211717P.
 XX (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX (THER-) THERION BIOLOGICS CORP.
 XX
 XX Schlom J, Greiner JW, Kass E, Panicali D;
 XX WPI; 2002-205852/26.
 XX
 XX Composition for enhancing immune responses, particularly anti-tumor
 XX responses and treating neutropenia, cytopenia, comprises replication-
 XX defective virus encoding granulocyte-monocyte-colony stimulating factor.
 XX
 XX Claim 9; Page 15; 118pp; English.
 XX
 XX The present invention relates to a pharmaceutical composition comprising
 XX a replication-defective virus (RDV) encoding granulocyte-monocyte-colony
 XX stimulating factor (GM-CSF). The invention is useful for enhancing cell-
 XX mediated or humoral immune response in an individual, by enhancing

CC migration of APC expressing CD11c⁺/I-Ab⁺, major histocompatibility complex (MHC) class II, at an injection site, regional lymph node at a tumour site, APC proliferation or function, CD4⁺T or CD8⁺T cell activation, interleukin (IL)-2, interferon (IFN)-gamma or tumour necrosis factor (TNF)-alpha production or their combinations. The composition enhances an antigen-specific T-cell response in an individual to a target antigen or its immunological epitope and an anti-tumour response in an individual with a head tumour, neck, breast, pancreatic, prostate, colorectal or metastatic tumour or melanoma, or metastatic breast skin lesion. The invention is further useful for treating neutropenia resulting from chemotherapy, corticosteroid therapy, irradiation or an infection, by raising the neutrophil count to normal levels and for treating cytopenias in patients with myelodysplastic syndrome in combination with erythropoietin, by increasing neutrophil count and erythroid precursors. The composition enhances immune response to vaccines such as DPT, Td, DtaP, Hib, DtaP-Hib, MMR, Hepatitis A, hepatitis B, Lyme's disease, influenza, tetravalent meningococcal polysaccharide, pneumococcal polysaccharide, anthrax, cholera, plague, yellow fever and Bacillus Calmette-Guerin vaccine. The present sequence is human leukocyte antigen (HLA)-restricted target tumour antigen immunological epitope

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e-06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
| | | | |
Db 1 EADPTGHSY 9

RESULT 66

ABG66793
ID ABG66793 standard; peptide; 9 AA.

AC ABG66793;

DT 24-SEP-2002 (first entry)

DE Tumour antigen MAGE-1, HLA-A1 epitope.

KW Beta-2 microglobulin; beta-2m; cytotoxic T lymphocyte; CTL; HLA;
KW human leukocyte antigen; fusion protein; epitope; cytostatic; tumour;
KW gastrointestinal tumour; colorectal cancer; gastro-oesophageal cancer;
KW liver cancer; biliary tract cancer; pancreatic cancer; vaccine;
KW prostatic cancer; testicular cancer; lung cancer; breast cancer;
KW malignant melanoma; mesothelioma; brain tumour; ovarian cancer;
KW uterine cancer; cervical cancer; head and neck cancer; bladder cancer;
KW Kaposi's sarcoma; renal carcinoma; leukaemia; lymphoma;
KW acquired immunodeficiency syndrome; AIDS-related lymphoma.

XX Homo sapiens.

OS WO200236146-A2.

PN 10-MAY-2002.

PD 01-NOV-2001; 2001WO-GB004844.

PF 02-NOV-2000; 2000GB-00026812.

PR (ISIS-) ISIS INNOVATION LTD.

PA Tafuro S, Meier U, McMichael AJ, Bell JI, Layton G, Hunter M;
PI WPI; 2002-508108/54.

XX New polynucleotide capable of expressing an epitope-beta2m fusion protein

PT useful for generating cytotoxic T lymphocyte responses against a tumor
PT and in restoring antigen presentation in the tumor of a host.

XX

PS Disclosure; Page 25; 46pp; English.

XX The invention relates to a new polynucleotide capable of expressing an
CC epitope-beta2m fusion protein useful for generating cytotoxic T
CC lymphocyte (CTL) responses against a tumour or in restoring antigen
CC presentation in the tumour of a host. Also included are a polynucleotide
CC capable of expressing an epitope-beta 2m fusion protein in combination
CC with a vaccination agent that stimulates a CTL response against the
CC epitope of the fusion protein for simultaneous, separate or sequential
CC use in the treatment of cancer and a method of treating a tumour by
CC administering a capable of expressing an epitope-beta 2m fusion protein,
CC and optionally a vaccination agent that stimulates a CTL response against
CC the epitope of the fusion protein. The polynucleotide is useful for
CC generating CTL responses against tumours, for restoring antigen
CC presentation in the tumour, and subsequently for treating cancers, such
CC as gastrointestinal tumour, prostatic, testicular, lung or breast cancer,
CC malignant melanoma, mesothelioma, brain tumour, ovarian cancer, uterine
CC cancer including cervical cancer, cancer of the head and neck, bladder
CC cancer, Kaposi's sarcoma, AIDS (acquired immunodeficiency syndrome)-
CC related related sarcoma, sarcoma, osteosarcoma, renal carcinoma, and
CC haematopoietic malignant tumours such as leukaemia and lymphoma. The
CC epitope is an HLA (human leukocyte antigen) peptide derived from a viral
CC or tumour antigen. The present sequence is a tumour HLA epitope used in
CC the fusion proteins of the invention

XX Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e-06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
| | | | |
Db 1 EADPTGHSY 9

RESULT 67

ABG80306
ID ABG80306 standard; peptide; 9 AA.

AC ABG80306;

DT 29-AUG-2003 (revised)

DT 15-NOV-2002 (first entry)

XX MHC class I molecule, viral epitope #554.

DE Major histocompatibility complex; MHC; MHC class I molecule; virus;
KW epitope; cytotoxic T lymphocyte response; CTL response; lymphatic system;
KW antigen; immunogenic; malignant tumour; carcinoma; melanoma; leukaemia;
KW lymphoma; infectious disease; hepatitis; malaria; measles; tuberculosis;
KW acquired immune deficiency syndrome; AIDS.

XX Viruses.

OS WO200262368-A2.

PN 15-AUG-2002.

PD 22-JAN-2002; 2002WO-US002033.

PF 02-FEB-2001; 2001US-00776232.

PR (CTLI-) CTL IMMUNOTHERAPIES CORP.

PA Kundig TM, Simard JUL;

PI WPI; 2002-657506/70.

XX Inducing or sustaining immunological cytotoxic T lymphocyte response in a
PT mammal, useful for treating a mammal with malignant tumor or infectious
PT disease, by directly administering an antigen to the lymphatic system of
PT the mammal.

CC	(a) an antigen in the form of a polypeptide; (b) a vector comprising a
CC	nucleic acid encoding the antigen; or (c) a non-peptide antigen. The
CC	method is useful for inducing and/or sustaining CTL response in a mammal.
CC	This is particularly useful for treating a mammal having a malignant
CC	tumour (e.g. carcinoma, melanoma, leukaemia or lymphoma) or infectious
CC	disease (e.g. hepatitis, acquired immune deficiency syndrome (AIDS),
CC	malaria, measles or tuberculosis), or in an animal having a
CC	predisposition to these diseases. The mammal may be dogs, cats, mice,
CC	cattle, sheep, pigs, goats, rabbits, or preferably humans. ABG79753-
CC	ABG80319 represent viral epitopes on major histocompatibility complex
CC	(MHC) class I molecules, used in the method of the invention. (Updated on
CC	29-AUG-2003 to standardise OS field)
XX	
SQ	Sequence 9 AA;
	Query Match 100.0%; Score 52; DB 5; Length 9;
	Best Local Similarity 100.0%; Pred. No. 1.4e+06;
	Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0
Qy	1 EADPTGHSY 9
Db	1 EADPTGHSY 9
RESULT 69	
ABG80307	
ID	ABG80307 standard; peptide; 9 AA.
XX	
AC	ABG80307;
XX	
DT	29-AUG-2003 (revised)
DT	15-NOV-2002 (first entry)
XX	
DE	MHC class I molecule, viral epitope #555.
XX	
KW	Major histocompatibility complex; MHC; MHC class I molecule; virus;
KW	epitope; cytotoxic T lymphocyte response; CTL response; lymphatic system;
KW	antigen; immunogenic; malignant tumour; carcinoma; melanoma; leukaemia;
KW	lymphoma; infectious disease; hepatitis; malaria; measles; tuberculosis;
XX	acquired immune deficiency syndrome; AIDS.
OS	Viruses.
XX	
PN	W0200262368-A2.
XX	
PD	15-AUG-2002.
PF	
PF	22-JAN-2002; 2002WO-US002033.
PR	
PR	02-FEB-2001; 2001US-00776232.
XX	(CTLI-) CTL IMMUNOTHERAPIES CORP.
PA	
XX	Kundig TW, Simard JUL;
PI	
XX	WPI; 2002-657506/70.
DR	
XX	
PT	Inducing or sustaining immunological cytotoxic T lymphocyte response in a
PT	mammal, useful for treating a mammal with malignant tumor or infectious
PT	disease, by directly administering an antigen to the lymphatic system of
PT	the mammal.
PS	
PS	Disclosure; Page 45; 73pp; English.
XX	
CC	The invention relates to a method of inducing and/or sustaining an
CC	immunological cytotoxic T lymphocyte (CTL) response in a mammal
CC	comprising administering directly to the lymphatic system of the mammal:
CC	(a) an antigen in the form of a polypeptide; (b) a vector comprising a
CC	nucleic acid encoding the antigen; or (c) a non-peptide antigen. The
CC	method is useful for inducing and/or sustaining CTL response in a mammal.
CC	This is particularly useful for treating a mammal having a malignant
CC	tumour (e.g. carcinoma, melanoma, leukaemia or lymphoma) or infectious
CC	disease (e.g. hepatitis, acquired immune deficiency syndrome (AIDS),

Db 1 EADPTGHSY 9

RESULT 72

ABR57344
ID ABR57344 standard; peptide; 9 AA.

XX AC ABR57344;

XX DT 09-SEP-2003 (first entry)

XX DE MAGE-1.A1 specific peptide.

XX KW Antigen presenting cell; vaccination; nontropic; neuroprotective;
KW antiarteriosclerotic; cytostatic; antidiabetic; hepatotropic;
KW antiinflammatory; antiparasitic; fungicide; antibacterial; virucide;
KW vaccine; Alzheimer's disease; atherosclerosis; cancer; diabetes;
KW hepatitis; infection.

XX OS Synthetic.

XX PN WO2003046011-A1.

XX PD 05-JUN-2003.

XX PF 30-NOV-2001; 2001WO-EP014255.

XX PR 30-NOV-2001; 2001WO-EP014255.

XX PA (CRUC-) CRUCELL HOLLAND BV.

XX PI Germaraad W;

XX DR WPI; 2003-493401/46.

XX PT New conjugate for targeting antigen presenting cells, useful for
PT preventing, retarding or treating e.g., Alzheimer's disease,
PT atherosclerosis, cancer, diabetes, hepatitis or fungal, bacterial or
PT viral infections.

XX PS Disclosure; Page 25; 54pp; English.

XX CC The present invention describes a conjugate (I) for targeting antigen
CC presenting cells (APCs) comprising at least one antigenic moiety
CC conjugated to a targeting moiety that is capable of binding to a cell
CC surface structure of an APC, and upon binding, inducing a cytotoxic T
CC lymphocyte (CTL) and T-helper response. Also described: (1) a nucleic
CC acid sequence encoding the antigenic or targeting moiety; (2) an
CC expression vector comprising the nucleic acid sequence, operably linked
CC to expression sequences for the APC; (3) a host cell transformed or
CC transfected using the nucleic acid or expression vector; (4) a method for
CC producing (I); (5) a method for generating an APC, capable of eliciting
CC an immune response via MHC classes I and II presentation of processed
CC antigen fragments; and (6) a pharmaceutical composition comprising (I) or
CC the APC. (I) has nontropic, neuroprotective, virucide,
CC antiarteriosclerotic, cytostatic, antidiabetic, hepatotropic, fungicide,
CC antiinflammatory, antiparasitic and antibacterial activities, and can be
CC used in vaccines. The conjugate (I) or APC can be used for preventing,
CC retarding or treating e.g., Alzheimer's disease, atherosclerosis,
CC cancer, diabetes, hepatitis or parasitic, fungal, bacterial or viral
CC infections. The present sequence represents a MAGE-1.A1 specific peptide,
CC which is used in the exemplification of the present invention.

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 6; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

RESULT 73

ADA19520
ID ADA19520 standard; peptide; 9 AA.

XX AC ADA19520;

XX DT 20-NOV-2003 (first entry)

XX DE Human cancer antigen, MAGE-A1 (MHC HLA-A1).

XX KW Lymphoid tissue-specific cell; haematopoietic progenitor cell;
KW lymphoreticular stromal cell; transplantation; implantation;
KW autoimmune disease; infectious disease; maintenance; expansion;
KW differentiation; T cell tolerance; immune tolerance; T-cell reactivity;
KW therapeutic; differentiated progeny; antigen; MHC;
KW major histocompatibility complex; cancer; human.

XX OS Homo sapiens.

XX PN US6548299-B1.

XX PD 15-APR-2003.

XX PF 18-MAY-2000; 2000US-00574749.

XX PR 12-NOV-1999; 93WO-US026795.

XX PA (PYKE/) PYKETT M J.

XX PA (ROSE/) ROSENZWEIG M.

XX PA (SCAD/) SCADDEN D T.

XX PA (POZN/) POZNANSKY M C.

XX PI Pykett MJ, Rosenzweig M, Scadden DT, Poznansky MC;

XX DR WPI; 2003-605374/57.

XX PT Producing lymphoid tissue-specific cell in vivo, useful in
PT transplantation, implantation, autoimmune and/or infectious diseases by
PT introducing hematopoietic progenitor and lymphoreticular stromal cells
PT into a porous solid matrix.

XX PS Disclosure; SEQ ID NO 1; 34pp; English.

XX CC The invention discloses a method for producing lymphoid tissue-specific
CC cell in vivo, comprising introducing haematopoietic progenitor cells and
CC lymphoreticular stromal cells into a porous, solid matrix having
CC interconnected pores of a pore size sufficient to permit the cells to
CC grow throughout the matrix, and co-culturing the haematopoietic
CC progenitor cells and lymphoreticular stromal cells. The methods are
CC useful in transplantation, implantation, autoimmune diseases and/or
CC infectious diseases. They are particularly useful for in vivo
CC maintenance, expansion and/or differentiation of haematopoietic
CC progenitor cells, for inducing T cell tolerance, for treating a subject
CC to enhance immune tolerance, for inducing T-cell reactivity and for
CC identifying an agent suspected of affecting haematopoietic cell
CC development. The lymphoid tissue-specific cells are useful in laboratory
CC analysis and in therapeutics. The method provides rapid generation of a
CC large number of differentiated progeny. The sequence presented is a
CC cancer antigen which was used in the invention to expand haematopoietic
CC progenitor cells.

XX SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 6; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;

Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

Db 1 EADPTGHSY 9

DT	25-MAR-2003 (revised)
DT	25-FEB-1998 (first entry)
XX	
DE	MAGE-1/HLA-B44 tumour rejection antigen.
XX	
KW	MAGE-1; tumour rejection antigen precursor; TRAP; HLA-B44;
KW	human leukocyte antigen B44; cytotoxic T lymphocyte; cancer; melanoma;
KW	therapy; diagnosis; vaccine.
XX	
OS	Homo sapiens.
FN	WO9731017-A1.
XX	
PD	28-AUG-1997.
XX	
PF	05-FEB-1997; 97WO-US001915.
XX	
PR	20-FEB-1996; 96US-00602506.
XX	
PA	(LUDW-) LUDWIG INST CANCER RES.
XX	
PI	Herman J, Coulie P, Boonfalleur T, Van Der Bruggen P, Luescher I;
XX	
DR	WPI; 1997-435086/40.
XX	
PT	Tumour rejection antigens presented by human leukocyte antigen B44
PT	molecules - useful to identify HLA-B44 positive cells for diagnosis and
PT	therapy of cellular abnormalities.
XX	
PS	Claim 2; Page 49; 74pp; English.
XX	
CC	This peptide is a tumour rejection antigen presented by a HLA-B44
CC	molecule and derived from a MAGE-1 tumour rejection antigen precursor
CC	(TRAP). Claimed tumour rejection antigens (AAW23038-43) are able to bind
CC	to HLA-B44 positive cells, making them useful in identifying cells which
CC	present HLA-B44 molecules on their surfaces for use in the diagnosis and
CC	therapy of cellular abnormalities. The complex of the tumour rejection
CC	antigen and HLA molecule provokes a cytolytic T cell response. The tumour
CC	rejection antigens, or complexes of tumour rejection antigens and HLA-
CC	B44, can be used as vaccines to treat disorders characterised by
CC	expression of the TRAP molecule such as cancer, especially melanoma.
CC	Vaccines can also be prepared from cells which present the tumour
CC	rejection antigen/HLA complexes on their surface, such as non-
CC	proliferative cancer cells and non-proliferative transfectants. (Updated
CC	on 25-MAR-2003 to correct PI field.)
XX	
SQ	Sequence 10 AA;
	Query Match 100.0%; Score 52; DB 2; Length 10;
	Best Local Similarity 100.0%; Pred. No. 0.0033;
	Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY	1 EADPTGHSY 9
DB	2 EADPTGHSY 10
RESULT 76	
AA46094	
ID	AA46094 standard; peptide; 10 AA.
AC	
AC	AA46094;
XX	
DT	01-DEC-1999 (first entry)
XX	
DE	Immunogenic peptide having a human leukocyte antigen binding motif #705.
XX	
KW	Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA;
KW	immune response; T cell activation; major histocompatibility complex;
KW	cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer;
KW	prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
XX	vaccine; immunisation.
XX	

PF 19-JAN-2001; 2001WO-US002008.
 XX 20-JAN-2000; 2000US-0177242P.
 PR 25-OCT-2000; 2000US-0243212P.
 XX (LUDW-) LUDWIG INST CANCER RES.
 PA Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
 PI Demotte N, Schultz E;
 XX WPI; 2001-488724/53.
 DR Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
 XX binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
 PT diagnosis and treatment of a disorder characterized by expression of MAGE
 PT -A1 or -A3.
 XX Claim 10; Page 52; 103pp; English.
 PS The invention relates to functional variants and isolated mimetics of a
 XX MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
 CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
 CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
 CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
 CC antigenic peptide acts by binding to HLA molecules on tumour cells and
 CC stimulating recognition of these cells and thus signalling them to the
 CC immune system for destruction. The peptide when presented by HLA molecule
 CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
 CC The MAGE antigenic peptide is used to treat and diagnose disorders
 CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
 CC e.g melanomas, cesophageal, lung, head and neck, breast, colorectal,
 CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
 CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
 CC tumours. The present sequence is a human MAGE-A1 antigenic peptide
 CC presented by HLA-B35
 XX Sequence 10 AA;
 SQ Query Match 100.0%; Score 52; DB 4; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.0033;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 DB 2 EADPTGHSY 10
 RESULT 79
 AA06814
 ID AAE06814 standard; peptide; 10 AA.
 XX AAE06814;
 AC AAE06814;
 DT 16-OCT-2001. (first entry)
 DE Human MAGE-A1 antigenic peptide #8.
 XX MAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
 KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
 KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
 KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
 KW gene therapy; human; MAGE-A1; tumour rejection antigen; TRA.
 XX Homo sapiens.
 OS WO200153833-A1.
 XX 26-JUL-2001.
 PD 19-JAN-2001; 2001WO-US002008.
 XX 20-JAN-2000; 2000US-0177242P.
 PR 25-OCT-2000; 2000US-0243212P.

XX (LUDW-) LUDWIG INST CANCER RES.
 XX Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
 PI Demotte N, Schultz E;
 XX WPI; 2001-488724/53.
 DR Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
 XX binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
 PT diagnosis and treatment of a disorder characterized by expression of MAGE
 PT -A1 or -A3.
 XX Claim 4; Fig 7; 103pp; English.
 PS The invention relates to functional variants and isolated mimetics of a
 XX MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
 CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
 CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
 CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
 CC antigenic peptide acts by binding to HLA molecules on tumour cells and
 CC stimulating recognition of these cells and thus signalling them to the
 CC immune system for destruction. The peptide when presented by HLA molecule
 CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
 CC The MAGE antigenic peptide is used to treat and diagnose disorders
 CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
 CC e.g melanomas, cesophageal, lung, head and neck, breast, colorectal,
 CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
 CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
 CC tumours. The present sequence is human MAGE-A1 epitope presented by HLA-
 B*4402
 XX Sequence 10 AA;
 SQ Query Match 100.0%; Score 52; DB 4; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.0033;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 DB 2 EADPTGHSY 10
 RESULT 80
 AA06852
 ID AAE06852 standard; peptide; 10 AA.
 XX AAE06852;
 AC AAE06852;
 DT 16-OCT-2001 (first entry)
 DE Human MAGE-A1 antigenic peptide generic sequence.
 XX MAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
 KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
 KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
 KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
 KW gene therapy; human; MAGE-A1; tumour rejection antigen; TRA.
 XX Homo sapiens.
 OS WO200153833-A1.
 XX 26-JUL-2001.
 PD 19-JAN-2001; 2001WO-US002008.
 XX 20-JAN-2000; 2000US-0177242P.

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PR 25-OCT-2000; 2000US-0243212P.
XX
XX (LUDW-) LUDWIG INST CANCER RES.
XX
PI Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;
XX
XX WPI; 2001-488724/53.
XX
XX Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
XX binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
XX diagnosis and treatment of a disorder characterized by expression of MAGE
XX -A1 or -A3.
XX
XX Claim 3; Page 53; 103pp; English.
XX
XX The invention relates to functional variants and isolated mimetics of a
XX MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
XX of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
XX the specification. MAGE genes encode tumour rejection antigens (TRAs)
XX presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
XX antigenic peptide acts by binding to HLA molecules on tumour cells and
XX stimulating recognition of these cells and thus signalling them to the
XX immune system for destruction. The peptide when presented by HLA molecule
XX induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
XX The MAGE antigenic peptide is used to treat and diagnose disorders
XX characterised by expression of MAGE-A1 or -A3. Disorders include cancers
XX e.g. melanomas, oesophageal, lung, head and neck, breast, colorectal,
XX prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
XX carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
XX tumours. The present sequence is a generic sequence of human MAGE-A1
XX antigenic peptide that is presented by HLA-B44
XX
XX Sequence 10 AA;
XX
XX Query Match 100.0%; Score 52; DB 4; Length 10;
XX Best Local Similarity 100.0%; Pred. No. 0.0033;
XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 1 EADPTGHSY 9
XX DB 2 EADPTGHSY 10
XX
XX RESULT 81
XX AAY46072
XX ID AAY46072 standard; peptide; 11 AA.
XX AC
XX AC AAY46072;
XX DT 01-DEC-1999 (first entry)
XX DE
XX DE Immunogenic peptide having a human leukocyte antigen binding motif #683.
XX KW Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA;
XX KW immune response; T cell activation; major histocompatibility complex;
XX KW cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer;
XX KW prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
XX KW vaccine; immunisation.
XX OS Synthetic.
XX OS Homo sapiens.
XX XX WO9945954-A1.
XX PN
XX PD 16-SEP-1999.
XX XX
XX PF 13-MAR-1998; 98WO-US005039.
XX XX
XX PR 13-MAR-1998; 98WO-US005039.
XX XX
XX PA (EPIM-) EPIMUNE INC.
XX XX
XX PT New monoclonal antibody binding specifically to MAGE-1 - useful for

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PI Sette A, Kubo RT, Sidney J, Celis E, Grey HM, Southwood S;
XX
XX WPI; 1999-551214/46.
XX
XX New immunogenic peptides with HLA binding motif, useful in treatment and
XX diagnosis of cancers and viral diseases.
XX
XX Claim 1; Page 55; 150pp; English.
XX
XX AAY45390 to AAY48214 represent specifically claimed immunogenic peptides
XX having a human major histocompatibility complex (MHC) Class I (also known
XX as human leukocyte antigen (HLA)) binding motif. The immunogenic peptides
XX can bind to a specific HLA allele (i.e. HLA-A subtypes HLA-A2.1, A1, A3.2
XX or A24.1 or HLA-B or C) and induce a cytotoxic T cell response against
XX the antigen from which the peptide is derived. Cytotoxic T lymphocytes
XX (CTLs) which destroy antigen-bearing cells are normally induced by an
XX antigen in the form of a peptide fragment bound to a HLA molecule, rather
XX than the intact foreign antigen itself, and are particularly important in
XX tumour rejection and in fighting viral infections. The peptides are
XX therefore useful therapeutically to treat or prevent viral infections and
XX cancers in mammals (especially humans) e.g. prostate cancer, hepatitis B
XX and C, AIDS, and renal carcinoma. They can be administered as vaccines to
XX elicit an immune response in individuals susceptible or otherwise at risk
XX of viral infection or cancer, or used to treat chronic or acute
XX conditions. They are also useful diagnostically, and can be used to
XX induce a cytotoxic T cell response, by contacting a cytotoxic T cell with
XX the peptide e.g. to produce CTLs ex vivo for infusion back into a
XX patient. The polynucleotides encoding the immunogenic peptides are also
XX useful therapeutically and for immunisation as above
XX
XX Sequence 11 AA;
XX
XX Query Match 100.0%; Score 52; DB 2; Length 11;
XX Best Local Similarity 100.0%; Pred. No. 0.0036;
XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 1 EADPTGHSY 9
XX DB 3 EADPTGHSY 11
XX
XX RESULT 82
XX AAR80620
XX ID AAR80620 standard; protein; 12 AA.
XX AC
XX AC AAR80620;
XX DT 28-FEB-1996 (first entry)
XX DE
XX DE Immunogenic peptide of tumour rejection antigen (WAGE-1).
XX XX
XX KW Tumour rejection antigen; WAGE-1; monoclonal antibody; MAb; diagnosis;
XX KW immunoassay; cancer; immunogen; antisera.
XX XX
XX OS Homo sapiens.
XX XX
XX PN WO9520974-A1.
XX XX
XX PD 10-AUG-1995.
XX XX
XX PF 05-JAN-1995; 95WO-US000095.
XX XX
XX PR 01-FEB-1994; 94US-00190411.
XX XX
XX PA (LUDW-) LUDWIG INST CANCER RES.
XX XX (SLOK) MEMORIAL SLOAN-KETTERING CANCER CENT.
XX XX
XX PI Chen Y, Stockert E, Chen Y, Garin-Chesa P, Rettig WJ;
XX PI Van Der Bruggen P, Boon-Falleur T, Old LJ;
XX XX
XX WPI; 1995-283606/37.
XX
XX New monoclonal antibody binding specifically to MAGE-1 - useful for
XX
XX PT

```

PT diagnosis and monitoring of cancer, also new hybridomas, recombinant MAGE
PT -1 and immunogenic peptide(s).

PS Claim 12; Page 20; 33pp; English.

XX A monoclonal antibody directed against the tumour rejection antigen (MAGE
CC -1) can be used to detect MAGE-1 in samples by standard immunoassay
CC methods for diagnosis and monitoring of cancer etc. The monoclonal
CC antibody is designated MA454 and is produced by the hybridoma deposited
CC as ATCC HB11540. The monoclonal antibody is specific for MAGE-1, having
CC no reactivity for MAGE-2 or MAGE-3. Peptide fragments of MAGE-1 (see
CC AAR80618-20) may be useful as immunogens for production of the monoclonal
CC antibody and antisera

SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 2; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.004;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
|||||||

DB 4 EADPTGHSY 12

RESULT 83

ID AAE06807 standard; peptide; 12 AA.

AC AAE06807;

DT 16-OCT-2001 (first entry)

DE Human MAGE-A1 antigenic peptide #1.

XX MAGE-A1 antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW gene therapy; human; tumour rejection antigen; TRA.

XX Homo sapiens.

XX WO200153833-A1.

XX 26-JUL-2001.

XX 19-JAN-2001; 2001WO-US002008.

XX 20-JAN-2000; 2000US-0177242P.

XX 25-OCT-2000; 2000US-0243212P.

XX (LUDW-) LUDWIG INST CANCER RES.

XX Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;

XX WPI; 2001-488724/53.

XX Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT diagnosis and treatment of a disorder characterized by expression of MAGE
PT -A1 or -A3.

XX Example 1; Page 52; 103pp; English.

XX The invention relates to functional variants and isolated mimetics of a
CC MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC antigenic peptide acts by binding to HLA molecules on tumour cells and
CC stimulating recognition of these cells and thus signalling them to the

CC immune system for destruction. The peptide when presented by HLA molecule
CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC The MAGE antigenic peptide is used to treat and diagnose disorders
CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC e.g. melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC tumours. The present sequence is a human MAGE-A1 antigenic peptide
CC presented by HLA-B35

XX Sequence 12 AA;

Query Match 100.0%; Score 52; DB 4; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.004;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9

DB 1 EADPTGHSY 9

RESULT 84

ID AAY59636 standard; peptide; 15 AA.

AC AAY59636;

DT 27-MAR-2000 (first entry)

DE Mage-1 epitope including 5' and 3' flanking regions.

XX Mage-1 tumour antigen; immune response stimulation; anticancer vaccine;
KW toxin-antigen conjugate; breast cancer; ovarian cancer; lung cancer;
KW skin cancer; brain cancer.

XX Synthetic.

XX WO9959627-A2.

XX 25-NOV-1999.

XX 14-MAY-1999; 99WO-US010679.

XX 15-MAY-1998; 98US-0085693P.

XX (GREE/) GREEN A M.

XX Green AM;

XX WPI; 2000-086579/07.

XX Stimulating an immune response.

XX Example; Page 26; 47pp; English.

XX This is the Mage-1 tumour antigen peptide including the 5' and 3'
CC flanking region. This peptide is used in a method for stimulating an
CC immune response in a mammal, through the administration of a toxin-
CC antigen conjugate. The antigen peptide is linked to a toxin such as Shiga
CC toxin B fragment and can be used to stimulate an immune response to
CC treat an antigen-related state in a mammal. The immune response elicited
CC by the toxin-antigen conjugate involves stimulation of dendritic cells,
CC including Langerhans cells. The antigens are particularly used as a
CC source of epitopes for anticancer vaccines. The cancers may be, e.g.
CC breast, ovarian, lung, skin and brain

XX Sequence 15 AA;

Query Match 100.0%; Score 52; DB 3; Length 15;
Best Local Similarity 100.0%; Pred. No. 0.0051;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9


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Db
|||||
4 EADPTGHSY 12

RESULT 85
AAE06813
ID AAE06813 standard; peptide; 23 AA.
XX
AC AAE06813;
XX
DT 16-OCT-2001 (first entry)
XX
DE Human MAGE-A1 antigenic peptide #7.
XX
KW MAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
gene therapy; human; MAGE-A1; tumour rejection antigen; TRA.
XX
OS Homo sapiens.
XX
PN WO200153833-A1.
XX
PD 26-JUL-2001.
XX
XX 19-JAN-2001; 2001WO-US002008...
XX
PF 20-JAN-2000; 2000US-0177242P.
XX
PR 25-OCT-2000; 2000US-0243212P.
XX
XX (LUDW-) LUDWIG INST CANCER RES.
XX
PA Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;
XX
DR WPI; 2001-488724/53.
DR N-PSDB; AAD12990.
XX
XX Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT diagnosis and treatment of a disorder characterized by expression of MAGE
PT -A1 or -A3.
XX
XX Claim 11; Fig 7; 103pp; English.
XX
XX The invention relates to functional variants and isolated mimetics of a
MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
the specification. MAGE genes encode tumour rejection antigens (TRAs)
presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
antigenic peptide acts by binding to HLA molecules on tumour cells and
stimulating recognition of these cells and thus signalling them to the
immune system for destruction. The peptide when presented by HLA molecule
induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
The MAGE antigenic peptide is used to treat and diagnose disorders
characterised by expression of MAGE-A1 or -A3. Disorders include cancers
e.g. melanomas, oesophageal, lung, head and neck, breast, colorectal,
prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
tumours. The present sequence is human MAGE-A1 antigenic peptide
presented by HLA-B*4402
XX
XX Sequence 23 AA;
SQ
Query Match 100.0%; Score 52; DB 4; Length 23;
Best Local Similarity 100.0%; Pred. No. 0.0081;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db |||||||
15 EADPTGHSY 23

RESULT 86
AAU85034
ID AAU85034 standard; peptide; 30 AA.
XX
AC AAU85034;
XX
DT 08-MAY-2002 (first entry)
XX
DE Human MAGE-1 segment 11.
XX
XX Savine; vaccine; cancer; viral infection; HIV; hepatitis C virus;
viral infection; human immunodeficiency virus; melanoma;
bacterial infection; Salmonella; Legionella; parasitic infection;
Trypanosoma; Toxoplasma; Giardia.
XX
OS Homo sapiens.
XX
PN WO200190197-A1.
XX
PD 29-NOV-2001.
XX
XX 25-MAY-2001; 2001WO-AU000622.
XX
PR 26-MAY-2000; 2000AU-00007761.
XX
XX (AUSU) UNIV AUSTRALIAN NAT.
XX
XX Thomson SA, Ramshaw IA;
XX
DR WPI; 2002-147575/19.
DR N-PSDB; ABK36854.
XX
XX New synthetic polypeptides having several different segments of at least
one parent polypeptide linked together differently compared to the
linkage in the parent polypeptide, for inducing immune response against a
pathogen or cancer.
XX
XX Example 3; Fig 27; 364pp; English.
XX
XX The invention relates to a new synthetic polypeptide (I) comprising
several different segments of at least one parent polypeptide linked
together in a different relationship relative to their linkage in the
parent polypeptide to impede, abrogate or otherwise alter at least one
function associated with the parent polypeptide and for inducing an
immune response against a pathogen or cancer. Also included are a
synthetic polynucleotide encoding and a computer system for designing the
synthetic polypeptides. The synthetic polypeptides and polynucleotides
are referred to as a Savine. The synthetic polypeptide is useful for
modulating immune responses preferably directed against a pathogen or a
cancer, (e.g., cancers of the lung, breast, ovary, cervix, colon, head
and neck, pancreas, prostate, stomach, bladder, kidney, bone liver,
cesophagus, brain, testicle, uterus), as potentiating agents.
Compositions comprising the polypeptide may be used in the treatment or
prophylaxis against viral (such as infections caused by HIV (human
immunodeficiency virus), hepatitis, influenza, Japanese encephalitis
virus, Epstein-Barr virus and respiratory syncytial virus), bacterial
(e.g., infections caused by Neisseria, Meningococcal, Haemophilus,
Salmonella, Streptococcal, Legionella and Mycobacterium or parasitic
(e.g., infections caused by Plasmodium, Schistosoma, Leishmania,
Trypanosoma, Toxoplasma and Giardia) infections. The present sequence is
a peptide derived from a parent protein used to construct a vaccine of the
invention
XX
XX Sequence 30 AA;
SQ
Query Match 100.0%; Score 52; DB 5; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.011;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db |||||||
13 EADPTGHSY 21
```

RESULT 87
AAG66001
ID AAG66001 standard; protein; 47 AA.
XX AC AAG66001;
XX DT 27-FEB-2002 (first entry)
XX DE ALVAC(1)-MAGE-1/3 minigene polypeptide.
XX KW MAGE; tumour-associated antigen; epitope; MAGE-1/3 minigene; vaccine;
XX KW cystostatic; cancer; MAGE-1; MAGE-3.
XX OS Synthetic.
XX PH Key Location/Qualifiers
XX FT Peptide 1..34
XX FT Peptide 14..22 /note= "MAGE-1 (residues 149-181)"
XX FT Peptide 35..38 /note= "specifically claimed MAGE-1 epitope"
XX FT Cleavage-site 39..47 /note= "protease cleavage site"
XX FT Peptide /note= "MAGE-3 (residues 161-169); specifically claimed
MAGE-3 epitope"
XX PN WO200185932-A2.
XX PD 15-NOV-2001.
XX PF 07-MAY-2001; 2001WO-CA000646.
XX PR 10-MAY-2000; 2000US-0202970P.
XX PR 11-MAY-2000; 2000US-0203578P.
XX PR 20-OCT-2000; 2000US-0242388P.
XX PA (AVET) AVENTIS PASTEUR LTD.
XX PA (LUDW-) LUDWIG INST CANCER RES.
XX PI Berinstein N, Tartaglia J, Tine JA, Moingeon P, Boon-Falleur T;
XX PI Van Der Bruggen P;
XX XX WPI; 2002-049445/06.
XX DR N-PSDB; AAI67603, AAI67604.
XX XX Immunogenic polypeptide for eliciting MAGE-specific immune response in an
animal for treating cancer, comprises several MAGE-specific antigen
epitopes selected from different members of MAGE protein family.
XX PS Claim 7; Fig 2; 52pp; English.
XX CC The invention relates to an immunogenic polypeptide comprising a MAGE
(tumour-associated antigen)-specific antigen epitopes selected from
different members of the MAGE protein family. The immunogenic MAGE
polypeptide, encoding nucleotide sequences, host cells and recombinant
virus comprising the nucleic acid sequences are useful for inducing an
MAGE-specific immune response in an animal, and are used for treating
cancer. The present sequence represents a recombinant ALVAC(1)-MAGE-1/3
minigene polypeptide comprising MAGE-specific antigen epitopes from MAGE-
1 and MAGE-3
XX Sequence 47 AA;
XX Query Match 100.0%; Score 52; DB 5; Length 47;
Best Local Similarity 100.0%; Pred. No. 0.018;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EADPTGHSY 9
Db 14 EADPTGHSY 22

RESULT 88
ABP72588
ID ABP72588 standard; protein; 81 AA.
XX AC ABP72588;
XX DT 29-MAY-2003 (first entry)
XX DE Melanoma poly-epitope.
XX KW Cytotoxic T lymphocyte; epitope; melanoma; mel3; tyrosinase; melan-A;
XX KW MAGE-1; MAGE-3; nucleoprotein; vaccine; immunostimulant.
XX OS Unidentified.
XX OS Influenza virus.
XX OS Chimeric.
XX PH Key Location/Qualifiers
XX FT Region 1..9
XX FT Region /note= "Tyrosinase (aal-9)"
XX FT Region 10..19
XX FT Region /note= "Melan-A (aa26-35)"
XX FT Region 20..28
XX FT Region /note= "Tyrosinase (aa369-377)"
XX FT Region 29..30
XX FT Region /note= "Linker"
XX FT Region 31..39
XX FT Region /note= "MAGE-3 (aal67-175)"
XX FT Region 40..48
XX FT Region /note= "MAGE-3 (aa271-279)"
XX FT Region 49..57
XX FT Region /note= "MAGE-1 (aal61-169)"
XX FT Region 58..59
XX FT Region /note= "Linker"
XX FT Region 60..72
XX FT Region /note= "NY-ESO-1 (aa155-167)"
XX FT Region 73..81
XX FT Region /note= "Influenza nucleoprotein (aa366-374)"
XX PN WO2003011331-A2.
XX PD 13-FEB-2003.
XX PF 30-JUL-2002; 2002WO-GB003496.
XX PR 30-JUL-2001; 2001GB-00018532.
XX PA (ISIS-) ISIS INNOVATION LTD.
XX PI Cerundolo V, Palmowski MJ, Man-Lik Choi E;
XX XX WPI; 2003-248117/24.
XX DR N-PSDB; ABZ81674.
XX FT Use of epitopes in preparing a medicament for inducing an immune response
in an individual or for boosting an immune response in an individual that
has been previously exposed to at least one of the epitopes.
XX PS Disclosure; Page 64; 80pp; English.
XX CC The present sequence is of a melanoma poly-epitope encoded by the mel3
cassette (see ABZ81674) and comprising a string of melanoma epitopes,
i.e. 5 HLA-A2 epitopes (tyrosinase amino acids 1-9, melan-A (26-35),
tyrosinase (369-377), MAGE-3 (271-279) and NY-ESO-1 (155-167)) and 2 HLA-
A1 epitopes (MAGE-3 (167-175) and MAGE-1 (161-169)), plus a C-terminal
influenza nucleoprotein epitope. The use of plasmid, vaccinia virus,
modified vaccinia Ankara virus and Semliki Forest virus vectors for mela-
noma demonstrated that prime-boost vaccinations resulted in the expansion of a
narrow CTL repertoire. At the boosting step, cytotoxic T lymphocyte (CTL)
competition for recognition of cells presenting the melanoma poly-epitope
construct skewed the response towards those CTLs expanded more
efficiently during priming. In contrast, simultaneous expansion of CTL

CC specific to dominant and subdominant determinants was obtained when
 CC antigen-presenting cells (APC) presented the epitopes separately during
 CC the boosting phase. Thus, the invention provides an improved prime-boost
 CC vaccination regimen in which the epitopes in the boosting phase are
 CC administered individually, i.e. held on separate peptide constructs. The
 CC APC is preferably a dendritic cell or a lymphocyte, and the epitopes may
 CC be derived from one or more pathogens or from a tumour cell
 XX
 XX Sequence 81 AA;

Query Match 100.0%; Score 52; DB 6; Length 81;
 Best Local Similarity 100.0%; Pred. No. 0.032;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 49 EADPTGHSY 57

RESULT 89

ABP72587
 ID ABP72587 standard; protein; 81 AA.

AC ABP72587;

DT 29-MAY-2003 (first entry)

DE Melanoma poly-epitope.

KW Cytotoxic T lymphocyte; epitope; melanoma; mel3; tyrosinase; melan-A;
 KW MAGE-1; MAGE-3; nucleoprotein; vaccine; immunostimulant;
 KW DNA immunisation.

OS Unidentified.

OS Influenza virus.
 OS Chimeric.

Key Location/Qualifiers

FT Region 1..9
 FT /note= "Tyrosinase (aal-9)"
 FT Region 10..19
 FT /note= "Melan-A (aa26-35)"
 FT Region 20..28
 FT /note= "Tyrosinase (aa369-377)"
 FT Region 29..30
 FT /note= "Linker"
 FT Region 31..39
 FT /note= "MAGE-3 (aal67-175)"
 FT Region 40..48
 FT /note= "MAGE-3 (aa271-279)"
 FT Region 49..57
 FT /note= "MAGE-1 (aal61-169)"
 FT Region 58..59
 FT /note= "Linker"
 FT Region 60..72
 FT /note= "NY-ESO-1 (aa155-167)"
 FT Region 73..81
 FT /note= "Influenza nucleoprotein (aa366-374)"
 XX WO2003011332-A1.

XX 13-FEB-2003.

XX 30-JUL-2002; 2002WO-GB003497.

XX 30-JUL-2001; 2001GB-00018532.

XX (ISIS-) ISIS INNOVATION LTD.

XX Cerundolo V, Palmowski MJ, Man-Lik Choi E;

XX WPI; 2003-239473/23.

XX N-PSDB; ABZ81673.

XX

PT Use of epitopes for preparing a medicament, comprising individual
 PT vehicles, for boosting an immune response in an individual previously
 PT exposed to at least one of the epitopes.

PS Disclosure; Page 59; 78pp; English.

XX The present sequence is that of a melanoma poly-epitope encoded by the
 CC mela cassette (see ABZ81673) and comprising 5 HLA-A2 epitopes (tyrosinase
 CC amino acids 1-9, melan-A (26-35), tyrosinase (369-377), MAGE-3 (271-279)
 CC and NY-ESO-1 (155-167)) and 2 HLA-A1 epitopes (MAGE-3 (167-175) and MAGE-
 CC 1 (161-169)), plus a C-terminal influenza nucleoprotein epitope. The use
 CC of plasmid, vaccinia virus, modified vaccinia Ankara (MVA) virus and
 CC Semliki Forest virus vectors for mela demonstrated that prime-boost
 CC vaccinations resulted in the expansion of a narrow CTL repertoire. At the
 CC boosting step, CTL competition for recognition of cells presenting the
 CC melanoma poly-epitope construct skewed the response towards those CTLs
 CC expanded more efficiently during priming. In contrast, simultaneous
 CC expansion of CTL specific to dominant and subdominant determinants was
 CC obtained when antigen-presenting cells (APCs) presented the epitopes
 CC separately during the boosting phase. This was accomplished by injecting
 CC a mixture of recombinant viruses each encoding a separate antigen, and
 CC can also be achieved by injecting a mixture of APCs presenting the
 CC epitopes separately. Thus, the invention provides an improved prime-boost
 CC vaccination regimen in which individual vehicles are used to boost an
 CC immune response in an individual previously exposed to at least one of
 CC the epitopes (claimed)

SQ Sequence 81 AA;

Query Match 100.0%; Score 52; DB 6; Length 81;
 Best Local Similarity 100.0%; Pred. No. 0.032;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EADPTGHSY 9
 |||||
 Db 49 EADPTGHSY 57

RESULT 90

AAR70909

ID AAR70909 standard; protein; 309 AA.

AC AAR70909;

DT 25-MAR-2003 (revised)

DT 09-OCT-1995 (first entry)

DE Human melanoma antigen MAGE-1.

KW Human melanoma antigen; MAGE-1; vaccines; MAGE associated tumours;
 KW HLA-restricted cytotoxic T-lymphocyte activity.

OS Homo sapiens.

XX WO9504542-A1.

PD 16-FEB-1995.

PF 02-AUG-1994; 94WO-US008721.

PR 06-AUG-1993; 93US-00103623.

PA (CYTE-) CYTEL CORP.

XX Fikes JD, Livingston BD, Sette AD, Sidney JC;

XX WPI; 1995-090681/12.

XX N-PSDB; AAQ85435.

XX Human melanoma antigen, MAGE-1, peptide(s) - useful for stimulating
 PT immune response against melanoma.

XX

KW MAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
 KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
 KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
 KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
 KW gene therapy; human; MAGE-A1; tumour rejection antigen; TRA.
 OS Homo sapiens.
 XX
 XX WO200153833-A1.
 PN 26-JUL-2001.
 XX
 XX 19-JAN-2001; 2001WO-US002008.
 PF
 XX 20-JAN-2000; 2000US-0177242P.
 PR
 XX 25-OCT-2000; 2000US-0243212P.
 XX
 XX (LUDW-) LUDWIG INST CANCER RES.
 PA
 XX Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
 PI Denotte N, Schultz E;
 PI
 XX WPI; 2001-488724/53.
 DR
 XX N-PSDB; AAD12987.
 DR
 XX Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
 XX binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
 PT diagnosis and treatment of a disorder characterized by expression of MAGE
 PT -A1 or -A3.
 PT
 XX Claim 2; Page 86-87; 103pp; English.
 PS
 XX The invention relates to functional variants and isolated mimetics of a
 XX MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
 CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
 CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
 CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
 CC antigenic peptide acts by binding to HLA molecules on tumour cells and
 CC stimulating recognition of these cells and thus signalling them to the
 CC immune system for destruction. The peptide when presented by HLA molecule
 CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
 CC The MAGE antigenic peptide is used to treat and diagnose disorders.
 CC Characterised by expression of MAGE-A1 or -A3. Disorders include cancers
 CC e.g melanomas, oesophageal, lung, head and neck, breast, colorectal,
 CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
 CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
 CC tumours. The present sequence is human MAGE-A1 protein
 XX
 XX Sequence 309 AA;
 SQ
 Query Match 100.0%; Score 52; DB 4; Length 309;
 Best Local Similarity 100.0%; Pred. No. 0.14;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 161 EADPTGHSY 169
 RESULT 94
 AAU84814
 ID AAU84814 standard; protein; 309 AA.
 XX
 XX AAU84814;
 AC
 XX 08-MAY-2002 (first entry)
 DT
 XX Human MAGE-1 consensus sequence.
 DE
 XX
 XX Savine; vaccine; cancer; viral infection; HIV; hepatitis C virus;
 KW viral infection; human immunodeficiency virus; melanoma;
 KW bacterial infection; Salmonella; Legionella; parasitic infection;
 KW Trypanosoma; Toxoplasma; Giardia.

XX Homo sapiens.
 OS
 XX WO200190197-A1.
 PN
 XX 29-NOV-2001.
 PD
 XX
 XX 25-MAY-2001; 2001WO-AU000622.
 PF
 XX 26-MAY-2000; 2000AU-00007761.
 PR
 XX (AUSU) UNIV AUSTRALIAN NAT.
 PA
 XX Thomson SA, Ramshaw IA;
 PI
 XX WPI; 2002-147575/19.
 DR
 XX New synthetic polypeptides having several different segments of at least
 XX one parent polypeptide linked together differently compared to the
 PT linkage in the parent polypeptide, for inducing immune response against a
 PT pathogen or cancer.
 PT
 XX Example 3; Fig 27; 364pp; English.
 PS
 XX The invention relates to a new synthetic polypeptide (I) comprising
 CC several different segments of at least one parent polypeptide linked
 CC together in a different relationship relative to their linkage in the
 CC parent polypeptide to impede, abrogate or otherwise alter at least one
 CC function associated with the parent polypeptide and for inducing an
 CC immune response against a pathogen or cancer. Also included are a
 CC synthetic polynucleotide encoding and a computer system for designing the
 CC synthetic polypeptides. The synthetic polypeptide is useful for
 CC are referred to as a Savine. The synthetic polypeptide is useful for
 CC modulating immune responses preferably directed against a pathogen or a
 CC cancer, (e.g., cancers of the lung, breast, ovary, cervix, colon, head
 CC and neck, pancreas, prostate, stomach, bladder, kidney, bone liver,
 CC oesophagus, brain, testicle, uterus), as potentiating agents.
 CC Compositions comprising the polypeptide may be used in the treatment or
 CC prophylaxis against viral (such as infections caused by HIV (human
 CC immunodeficiency virus), hepatitis, influenza, Japanese encephalitis
 CC virus, Epstein-Barr virus and respiratory syncytial virus), bacterial
 CC (e.g., infections caused by Neisseria, Meningococcal, Haemophilus,
 CC Salmonella, Streptococcal, Legionella and Mycobacterium or parasitic
 CC (e.g., infections caused by Plasmodium, Schistosoma, Leishmania,
 CC Trypanosoma, Toxoplasma and Giardia) infections. The present sequence is
 CC a consensus sequence for a parent protein used to design a Savine of the
 CC invention
 XX
 XX Sequence 309 AA;
 SQ
 Query Match 100.0%; Score 52; DB 5; Length 309;
 Best Local Similarity 100.0%; Pred. No. 0.14;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 161 EADPTGHSY 169
 RESULT 95
 ABP74195
 ID ABP74195 standard; protein; 309 AA.
 XX
 XX ABP74195;
 AC
 XX 03-FEB-2003 (first entry)
 DT
 XX Human MAGE-1 protein SEQ ID NO:71.
 DE
 XX
 XX Human; epitope; vaccine; immunotherapeutic; cytostatic; immunogenicity;
 KW T cell.
 KW
 XX Homo sapiens.
 OS

XX WO2002081646-A2.
 XX 17-OCT-2002.
 XX 04-APR-2002; 2002WO-US011101.
 XX 06-APR-2001; 2001US-0282211P.
 XX 07-NOV-2001; 2001US-0337017P.
 XX 07-MAR-2002; 2002US-0363210P.
 XX (CTLI-) CTL IMMUNOTHERAPIES CORP.
 XX Simard JJJ, Diamond DC, Liu L, Xie Z;
 XX WPI; 2003-067518/06.
 XX N-PSDB; ABQ83847.
 XX Novel epitopes useful as vaccines, comprises peptides or nucleic acid
 XX encoding the peptides, that are useful epitopes of target-associated
 XX antigens.
 XX Claim 1; Page 156; 352pp; English.
 XX The present invention describes an isolated epitope (I) and an epitope
 XX cluster. Also described is a vaccine or immunotherapeutic composition
 XX (VC) comprising (I). (I) has cytostatic activity; VC is useful for
 XX treating an animal, by administering to an animal the vaccine or
 XX immunotherapeutic composition. VC is also useful for evaluating
 XX immunogenicity of a vaccine or immunotherapeutic composition, by
 XX administering VC to an HLA-transgenic animal and evaluating
 XX immunogenicity based on a characteristic of the animal, or by in vitro
 XX primary stimulation of a T cell and evaluating immunogenicity. (I) is
 XX useful for determining specific T cell frequency, by contacting T cells
 XX with a MHC-peptide complex, and further comprises ELISPOT analysis,
 XX limiting dilution analysis, flow cytometry, in situ hybridisation and/or
 XX polymerase chain reaction (PCR). ABQ83843 to ABQ83858 and ABP74128 to
 XX ABP74713 represent sequences used in the exemplification of the present
 XX invention
 XX SQ Sequence 309 AA;
 XX Query Match 100.0%; Score 52; DB 6; Length 309;
 XX Best Local Similarity 100.0%; Pred. No. 0.14;
 XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX QY 1 EADPTGHSY 9
 XX |||||
 XX Db 161 EADPTGHSY 169
 XX
 XX RESULT 96
 XX ABU08930
 XX ID ABU08930 standard; protein; 309 AA.
 XX AC ABU08930;
 XX XX 05-JUN-2003 (first entry)
 XX DT Human tumour rejection antigen precursor, MAGE-A1.
 XX DE
 XX KW TRAP; tumour rejection antigen precursor; cytolytic T-cell; CTL; tumour;
 XX KW seminoma; bladder transitional-cell carcinoma; NSCLC; adaptor;
 XX KW head-and-neck squamous-cell carcinoma; breast carcinoma; sarcoma;
 XX KW cutaneous melanoma; non-small cell lung cancer; MAGE-A1; human.
 XX OS Homo sapiens.
 XX XX US2002176865-A1.
 XX XX 28-NOV-2002.
 XX XX 01-MAR-2002; 2002US-00085108.
 XX PF

XX 25-APR-1997; 97US-00845528.
 XX 24-APR-1998; 98US-00066281.
 XX 17-DEC-1999; 99US-00468433.
 XX 09-FEB-2000; 2000US-00501104.
 XX (LUCA/) LUCAS S.
 XX (BOON/) BOON-FAILLEUR T.
 XX Lucas S, Boon-Failleur T;
 XX WPI; 2003-328468/31.
 XX N-PSDB; ABX93696.
 XX Novel isolated nucleic acid encoding tumor rejection antigen precursor
 XX MAGE-C3, MAGE-B5, or MAGE-B6, useful as diagnostic probes to determine
 XX presence of abnormal e.g., tumor cells expressing MAGE-C1, MAGE-B5 or
 XX MAGE-B6.
 XX Disclosure; Fig 2; 59pp; English.
 XX The invention relates to an isolated nucleic acid molecule which encodes
 XX a tumour rejection antigen precursor (TRAP) having an amino acid sequence
 XX of a TRAP encoded by a fully defined MAGE-C3, MAGE-B5, or MAGE-B6
 XX polynucleotide sequence. Also disclosed is a method which is useful for
 XX determining presence of cytolytic T-cells specific for complexes of human
 XX leukocyte antigen (HLA) and a peptide derived from the nucleic acid in a
 XX cytotoxic T-lymphocyte (CTL)-containing sample. The nucleic acid is
 XX useful as a diagnostic probe to determine the presence of abnormal
 XX (tumour) cells such as seminoma, bladder transitional-cell carcinoma,
 XX head-and-neck squamous-cell carcinoma, breast carcinoma, sarcoma,
 XX cutaneous melanoma or non-small cell lung cancer (NSCLC) which express
 XX MAGE-C3, MAGE-B5 or MAGE-B6. The nucleic acid is useful for diagnosing a
 XX disorder characterised by expression of MAGE-C1, MAGE-B5 or MAGE-B6 TRAPs
 XX or tumour rejection antigens (TRAs). The present sequence represents the
 XX amino acid sequence of the human tumour rejection antigen precursor, MAGE
 XX -A1
 XX SQ Sequence 309 AA;
 XX Query Match 100.0%; Score 52; DB 6; Length 309;
 XX Best Local Similarity 100.0%; Pred. No. 0.14;
 XX Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX QY 1 EADPTGHSY 9
 XX |||||
 XX Db 161 EADPTGHSY 169
 XX
 XX RESULT 97
 XX ADC09573
 XX ID ADC09573 standard; protein; 309 AA.
 XX AC ADC09573;
 XX XX 18-DEC-2003 (first entry)
 XX DT MAGE-1 protein #SEQ ID 71.
 XX DE
 XX KW Epitope; immunological; vaccine;
 XX KW major histocompatibility complex class I; MHC class I; cancer;
 XX KW immunisation.
 XX OS Unidentified.
 XX XX WO2003008537-A2.
 XX XX 30-JAN-2003.
 XX XX 29-MAR-2002; 2002WO-US010189.
 XX XX 06-APR-2001; 2001US-0282211P.
 XX XX 07-NOV-2001; 2001US-0337017P.
 XX PR

PR 07-MAR-2002; 2002US-0363210P.
 XX PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
 XX PI Simard JLL, Diamond DC, Liu L, Xie Z;
 XX WPI; 2003-248010/24.
 XX DR Epitope having high affinity for major histocompatibility complex class I
 XX PT useful for treating an animal, evaluating immunogenicity of a vaccine or
 XX PT therapeutic composition and for diagnosing a disease.
 XX Claim 1; SEQ ID NO 71; 239pp; English.
 XX The invention relates to an isolated epitope polypeptide that has high
 CC affinity for major histocompatibility complex (MHC) class I, and an
 CC epitope cluster comprising the polypeptide. Also disclosed is a vaccine
 CC or immunotherapeutic composition containing an epitope of the invention.
 CC Compositions of the invention may be used in the treatment of cancer. The
 CC method can be combined with a radiation therapy, chemotherapy,
 CC biochemotherapy or surgery. The composition is also useful for evaluating
 CC immunogenicity of a vaccine or immunotherapeutic compound. Multimeric MHC
 CC peptide complexes of the invention are useful for determining specific T
 CC cell frequency. This method is useful for evaluating immunological
 CC response, by performing the method prior to and subsequent to an
 CC immunisation step. Compositions of the invention are useful for
 CC diagnosing a disease. The current sequence represents an epitope of the
 CC invention with high affinity for MHC class I.
 XX Sequence 309 AA;
 Query Match 100.0%; Score 52; DB 7; Length 309;
 Best Local Similarity 100.0%; Pred. No. 0.14;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 161 EADPTGHSY 169
 |||||
 RESULT 98
 AAO19742
 ID AAO19742 standard; protein; 310 AA.
 XX AC AAO19742;
 XX DT 11-AUG-2003 (first entry)
 XX DE Wild-type MAGE1 protein.
 XX Stabilised mRNA; translation optimised; vaccine; tissue repair;
 XX sequence modification determination; gene therapy; cytostatic; virucide;
 XX antibacterial; protozoacide; nootropic; neuroprotective; infection;
 XX antiparkinsonian; immunostimulant; cancer; MAGE1 protein.
 XX Unidentified.
 XX WO200298443-A2.
 XX PD 12-DEC-2002.
 XX PF 05-JUN-2002; 2002WO-EP006180.
 XX PR 05-JUN-2001; 2001DE-01027283.
 XX (VMOE/) VON DER MUELBE F.
 XX Von Der Muelbe F, Hoerr I, Pascolo S;
 XX WPI; 2003-148621/14.
 XX DR N-PSDB; ABZ69107.
 XX Composition containing mRNA modified for optimal translation and

PT stability, useful for treating e.g. tumors or infections, comprises
 XX increased G/C content and fewer rare codons.
 XX Disclosure; Fig 2B; 75pp; German.
 XX The present invention relates to a pharmaceutical composition containing
 CC at least one modified RNA encoding a biologically active or antigenic
 CC protein. The RNA is modified to optimise translation of the sequence. The
 CC compositions are used for vaccination against a wide range of infectious
 CC diseases (viral, bacterial or protozoal) or cancer, or for tissue
 CC regeneration, e.g. in cases of Alzheimer's or Parkinson's diseases and
 CC arthritis, but also to express proteins such as dystrophins, chloride ion
 CC channels (for treating cystic fibrosis) and enzymes (either for treating
 CC metabolic disorders or for synthesis of neurotransmitters such as
 CC dopamine). The present sequence is the wild-type MAGE1 protein
 XX Sequence 310 AA;
 Query Match 100.0%; Score 52; DB 6; Length 310;
 Best Local Similarity 100.0%; Pred. No. 0.14;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EADPTGHSY 9
 Db 160 EADPTGHSY 168
 |||||
 RESULT 99
 AAY06592
 ID AAY06592 standard; protein; 445 AA.
 XX AC AAY06592;
 XX DT 26-OCT-1999 (first entry)
 XX DE CLYTA-MAGE-1-His fusion protein.
 XX MAGE-1; CLYTA-MAGE-1-His; fusion protein; tumour; melanoma;
 XX breast cancer; bladder cancer; lung cancer; colon cancer;
 XX head and squamous cell carcinoma; oesophagus carcinoma; vaccine; human.
 XX Streptococcus pneumoniae.
 XX Homo sapiens.
 XX Synthetic.
 XX Chimeric.
 XX WO9940188-A2.
 XX PD 12-AUG-1999.
 XX PF 02-FEB-1999; 99WO-EP000660.
 XX PR 05-FEB-1998; 98GB-00002543.
 XX PR 06-FEB-1998; 98GB-00002650.
 XX (SMIK) SMITHKLINE BEECHAM BIOLOGICALS.
 XX Cabezon Silva T, Cohen J, Slaoui MM, Vinals Bassols C;
 XX WPI; 1999-494293/41.
 XX DR N-PSDB; AAX87593.
 XX New protein derivatives used in cancer vaccine therapy for treating a
 PT range of cancers including melanomas, carcinomas and cancers of breast.
 XX Example 9; Page 69-70; 72pp; English.
 XX The present sequence represents a fusion protein composed of the C-
 CC terminal portion of the Streptococcus pneumoniae LYTA protein (CLYTA),
 CC the human MAGE-1 tumour-associated antigen and a hexahistidine tail. A
 CC vector designed for recombinant expression of the fusion protein in
 CC Escherichia coli is provided. The CLYTA moiety provides expression of
 CC soluble fusion protein, facilitates affinity purification, and also acts

CC as a T-helper epitope. The invention relates to MAGE proteins fused to an
 CC immunological fusion partner, e.g. CLYTA-MAGE-1-His. These novel fusion
 CC proteins provide vaccines for immunotherapy of melanomas or other MAGE-
 CC associated tumours like breast, bladder, lung and non-small cell lung
 CC cancer, head and squamous cell carcinoma, colon carcinoma and oesophagus
 CC carcinoma
 CC
 CC Sequence 445 AA;

Query Match 100.0%; Score 52; DB 2; Length 445;
 Best Local Similarity 100.0%; Pred. No. 0.2; Indels 0; Gaps 0;
 Matches 9; Conservative 0; Mismatches 0;

Qy 1 EADPTGHSY 9
 |||||
 Db 288 EADPTGHSY 296

RESULT 100
 AAY06590
 ID AAY06590 standard; protein; 446 AA.

XX AC AAY06590;
 XX DT 26-OCT-1999 (first entry)
 XX DE Lipoprotein D-MAGE-1-His fusion protein.
 XX KW MAGE-1; lipoprotein D; LPD-MAGE-1-His; fusion protein; tumour; melanoma;
 XX KW breast cancer; bladder cancer; lung cancer;
 XX KW head and squamous cell carcinoma; colon cancer; oesophagus carcinoma;
 XX KW vaccine; human.

XX OS Haemophilus influenzae.
 XX OS Homo sapiens.
 XX OS Synthetic.
 XX OS Chimeric.

XX FN WO9940188-A2.
 XX PD 12-AUG-1999.
 XX PF 02-FEB-1999; 99WO-EP000660.
 XX PR 05-FEB-1998; 98GB-00002543.
 XX PR 06-FEB-1998; 98GB-00002850.
 XX PA (SMIK) SMITHKLINE BEECHAM BIOLOGICALS.

XX PI Cabezon Silva T, Cohen J, Slaoui MM, Vinals Bassols C;
 XX DR WPI; 1999-494293/41.
 XX DR N-FSDB; AAX87591.

XX PT New protein derivatives used in cancer vaccine therapy for treating a
 XX PT range of cancers including melanomas, carcinomas and cancers of breast.
 XX PS Example 6; Page 67-68; 72pp; English.

XX CC The present sequence represents a novel fusion protein composed of
 CC lipitated protein D (LPD) of Haemophilus influenzae B, the human MAGE-1
 CC tumour-associated antigen and a hexahistidine tail. The invention relates
 CC to MAGE proteins fused to an immunological fusion partner such as LPD.
 CC The LPD moiety provides the fusion protein with additional exogenous T-
 CC cell epitopes and also increase expression levels in E. coli. The lipid
 CC tail ensures optimal presentation of the antigen to antigen-presenting
 CC cells. The affinity tag facilitates purification. The novel fusion
 CC proteins provide vaccines for immunotherapy of melanomas or other MAGE-
 CC associated tumours like breast, bladder, lung and non-small cell lung
 CC cancer, head and squamous cell carcinoma, colon carcinoma and oesophagus
 CC carcinoma

XX CC Sequence 446 AA;

Query Match 100.0%; Score 52; DB 2; Length 446;
 Best Local Similarity 100.0%; Pred. No. 0.2; Indels 0; Gaps 0;
 Matches 9; Conservative 0; Mismatches 0;

Qy 1 EADPTGHSY 9
 |||||
 Db 289 EADPTGHSY 297

RESULT 101
 ABR57354
 ID ABR57354 standard; protein; 1052 AA.

XX AC ABR57354;
 XX DT 09-SEP-2003 (first entry)
 XX DE MatDC16-C-gamma-4-MAGE-A1 amino acid sequence.

XX KW Antigen presenting cell; vaccination; neurotropic; hepatotropic;
 XX KW antiarteriosclerotic; cytostatic; antidiabetic; hepatotropic;
 XX KW antiinflammatory; antiparasitic; fungicide; antibacterial; virucide;
 XX KW vaccine; Alzheimer's disease; atherosclerosis; cancer; diabetes;
 XX KW hepatitis; infection.

XX OS Synthetic.

XX FH Key Location/Qualifiers
 XX FT Misc-difference 546 /note= "unspecified"
 XX FT
 XX FN WO2003046011-A1.

XX PD 05-JUN-2003.

XX PF 30-NOV-2001; 2001WO-EP014255.

XX PR 30-NOV-2001; 2001WO-EP014255.

XX PA (CRUC-) CRUCCELL HOLLAND BV.

XX PI Germeraad W;

XX DR WPI; 2003-493401/46.

XX PT New conjugate for targeting antigen presenting cells, useful for
 XX PT preventing, retarding or treating e.g., Alzheimer's disease,
 XX PT atherosclerosis, cancer, diabetes, hepatitis or fungal, bacterial or
 XX PT viral infections.

XX PS Disclosure; Fig 2; 54pp; English.

XX CC The present invention describes a conjugate (I) for targeting antigen
 CC presenting cells (APCs) comprising at least one antigenic moiety
 CC conjugated to a targeting moiety that is capable of binding to a cell
 CC surface structure of an APC, and upon binding, inducing a cytotoxic T
 CC lymphocyte (CTL) and T-helper response. Also described: (1) a nucleic
 CC acid sequence encoding the antigenic or targeting moiety; (2) an
 CC expression vector comprising the nucleic acid sequence, operably linked
 CC to expression sequences for the APC; (3) a host cell transformed or
 CC transfected using the nucleic acid or expression vector; (4) a method for
 CC producing (I); (5) a method for generating an APC, capable of eliciting
 CC an immune response via MHC classes I and II presentation of processed
 CC antigen fragments; and (6) a pharmaceutical composition comprising (I) or
 CC the APC. (I) has neurotropic, hepatotropic, antidiabetic, fungicide,
 CC antiarteriosclerotic, cytostatic, antidiabetic, hepatotropic, fungicide,
 CC antiinflammatory, antiparasitic and antibacterial activities, and can be
 CC used in vaccines. The conjugate (I) or APC can be used for preventing,
 CC retarding or treating e.g., Alzheimer's disease, atherosclerosis,
 CC cancer, diabetes, hepatitis or parasitic, fungal, bacterial or viral
 CC infections. The present sequence represents a MatDC16-C-gamma-4-MAGE-A1
 CC amino acid sequence, which is used in the exemplification of the present

CC Trypanosoma, Toxoplasma and Giardia) infections. The present sequence is
CC a savine protein of the invention
XX
SQ Sequence 3541 AA;
Query Match 100.0%; Score 52; DB 5; Length 3541;
Best Local Similarity 100.0%; Pred. No. 2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EADPTGHSY 9
Db 631 EADPTGHSY 639
Search completed: April 6, 2004, 08:23:02
Job time : 58 secs

CC invention
XX
SQ Sequence 1052 AA;
Query Match 100.0%; Score 52; DB 6; Length 1052;
Best Local Similarity 100.0%; Pred. No. 0.52;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EADPTGHSY 9
Db 904 EADPTGHSY 912
RESULT 102
AAU85130
ID AAU85130 standard; protein; 3541 AA.
XX
AC AAU85130;
XX
DT 08-MAY-2002 (first entry)
XX
DE Human melandma specific savine.
XX
KW Savine; vaccines; cancer; viral infection; HIV; hepatitis C virus;
KW viral infection; human immunodeficiency virus; melanoma;
KW bacterial infection; Salmonella; Legionella; parasitic infection;
KW Trypanosoma; Toxoplasma; Giardia.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200190197-A1.
XX
PD 29-NOV-2001.
XX
XX 25-MAY-2001; 2001WO-AU000622.
XX
XX 26-MAY-2000; 2000AU-00007761.
XX
XX (AUSU) UNIV AUSTRALIAN NAT.
XX
XX Thomson SA, Ramshaw IA;
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XX WPI; 2002-147575/19.
XX
XX N-PSDB; ABK36950.
XX
XX New synthetic polypeptides having several different segments of at least
PT one parent polypeptide linked together differently compared to the
PT linkage in the parent polypeptide, for inducing immune response against a
PT pathogen or cancer.
XX
XX Example 3; Fig 27; 364pp; English.

XX The invention relates to a new synthetic polypeptide (I) comprising
XX several different segments of at least one parent polypeptide linked
XX together in a different relationship relative to their linkage in the
XX parent polypeptide to impede, abrogate or otherwise alter at least one
XX function associated with the parent polypeptide and for inducing an
XX immune response against a pathogen or cancer. Also included are a
XX synthetic polynucleotide encoding and a computer system for designing the
XX synthetic polypeptides. The synthetic polypeptides and polynucleotides
XX are referred to as a Savine. The synthetic polypeptide is useful for
XX modulating immune responses preferably directed against a pathogen or a
XX cancer. (e.g., cancers of the lung, breast, ovary, cervix, colon, head
XX and neck, pancreas, prostate, stomach, bladder, kidney, bone liver,
XX oesophagus, brain, testicle, uterus), as potentiating agents.
XX Compositions comprising the polypeptide may be used in the treatment or
XX prophylaxis against viral (such as infections caused by HIV (human
XX immunodeficiency virus), hepatitis, influenza, Japanese encephalitis
XX virus, Epstein-Barr virus and respiratory syncytial virus), bacterial
XX (e.g., infections caused by Neisseria, Meningococcal, Haemophilus,
XX Salmonella, Streptococcal, Legionella and Mycobacterium or parasitic
XX (e.g., infections caused by Plasmodium, Schistosoma, Leishmania,

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